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## **Soviet Union**

### ***EKO: ECONOMICS & ORGANIZATION OF INDUSTRIAL PRODUCTION***

No 9, September 1987

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# Soviet Union

## EKO: Economics & Organization of Industrial Production

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## EKO: ECONOMICS AND ORGANIZATION OF INDUSTRIAL PRODUCTION

No 9, September 1987

[Except where indicated otherwise in the table of contents, the following is a complete translation of the Russian-language monthly journal *EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA* published in Novosibirsk.]

### Enduring Aspects of Cooperation Examined

18200006a Novosibirsk *EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO)* in Russian No 9, Sep 87 pp 3-33

[Article by A. S. Tsipko, doctor of philosophical sciences (Moscow): "Reflections on the Reasons for the Historical Stability of Cooperation"]

[Text] Cooperation is among the most multidimensional phenomena which are repeatedly subject to reevaluation, and disputes about its role in the development of the national economy and in social construction continue even today. The article offered for the reader's attention here provides a philosophical-sociological approach to this phenomenon as related to a world view. Cooperation is shown not so much in its concretely temporal expression as in its role as a means of manifesting the contradictions of social development and stimulating socioeconomic processes. The author is known for his polemical works on crucial problems of socialist construction (the books "Socialism: The Life of the Society and Man," "Several Philosophical Aspects of the Theory of Socialism," and others).

### Are We Not Restoring the Past?

One of the signs of restructuring is the ideological "rehabilitation" of cooperation. We have behind us 3 decades of the theoretical and practical struggle with cooperative production, sometimes dying out and sometimes flaring up again, which, according to I. V. Stalin's version, at the beginning of the 1950's began to "retard the powerful development of productive forces."<sup>1</sup> Today we recognize that cooperation is not impeding economic progress but is one of its basic conditions. Moreover, we link many of the difficulties of life and the backwardness of agriculture to the previous agrarian and social policy which ignored the potential of cooperation.<sup>2</sup>

Since the 27th CPSU Congress cooperation has gradually regained its positions in social life. The January (1987) Plenum of the CPSU Central Committee confirmed the party's resolve to overcome the previous attitude toward cooperative property, which was depicted by many social sciences as something "second-rate" and "without a future." Certain measures are being prepared which defend cooperation from administrative arbitrariness. Practical steps are being taken to restore

consumers' cooperation and it is playing a greater role in providing the population with food products. Kolkhozes are becoming more independent and they are becoming increasingly cooperative, that is, they are self-organizing enterprises that manage on the basis of self-financing and self-support. And today many people believe that cooperation will help us put an end to the poverty of the market and the poor organization of daily life and will rid us of the complex of "service inadequacy." It is no accident that the press, radio, and television have paid so much attention to each cooperative cafe that opens up. The word "cooperation" is becoming one of the symbols of perestroika.

In today's frame of mind (at least with respect to cooperation) there is much that is similar to the expectations at the beginning of the 1920's. For at that time also at the 10th Congress of the RKP(b), after 3 years of castigating cooperation as a mercenary-minded kind of orientation that was pervaded with the bourgeois spirit,<sup>4</sup> a more meaningful approach to its economic and social potential was gradually developed.<sup>5</sup> At the beginning of the 1920's the article by V. I. Lenin, "On Cooperation," was of decisive significance in the ideological "rehabilitation" of cooperation, and in our day it is the Political Report of the CPSU Central Committee to the 27th Party Congress.<sup>6</sup>

Such analogies raise many confusing issues. For example: "Will the development of cooperation not lead to a restoration of the transitional condition?", "Is it possible to move forward while repeating a policy from 60 years ago?" At first glance the answers are obvious: it is possible to return to a policy of the past, if its tasks were not carried out, and it can still produce positive results; the spreading of cooperation cannot be regarded as a sign of backwardness or underdevelopment of the socialist society, for cooperation and socialism are inseparably linked. We can refer to Lenin, who asserted that "a structure of civilized cooperatives with public ownership of the means of production and with a class victory of the proletariat over the bourgeoisie—this is the structure of socialism"<sup>7</sup>

The very fact of the historic stability of cooperation confirms the truth of the ideas formulated by V. I. Lenin in the corresponding part of his political legacy. Therefore we should look for a theoretical explanation of this phenomenon first and foremost in the article by V. I. Lenin, "On Cooperation."

Lenin's definition of cooperation is an effective mechanism for joining private interest and public interest and a means of including many private interests in the achievement of public goals remains timely.<sup>8</sup> As V. I. Lenin wrote, "Cooperation remains the most acceptable method of collectivization of property and the development in the working peasant of a feeling of being a collective master, and it retains for him the possibility of participating directly in the organization of production, the distribution of its results, the determination of the

share and method of accumulation, and so forth. This is why when raising the question of instilling in the workers the feeling of being a master, we are drawn to his solution and such a social mechanism as cooperation. And if we taken into account the fact that the task of overcoming the opposition between individual and public interests will always be crucial (in any case as long as modern civilization, the family, and separate individual lives exist, as long as there is a need to control the measure of labor and consumption), there will always be the need for cooperation as one of the ways of overcoming this initial contradiction of social life. In our view it is not only utopian, but also dangerous to strive to completely surmount individual material interest in social life. Our citizens who fight against economic incentives, sowing hatred for "personal advantage" for the so-called "economic accumulation" and "the narrow framework of domestic comfort" do not know what they are creating. Their victory could lead to the destruction of production, family and the individual for which they are so concerned. The feeling of individuality and selfhood is formed during the process of recognition of individual interest. It is a different matter that the direction of individual interests can be different. At least for the strengthening of socialism it is more useful to have the kind of compromise between individual selfishness and social advantage that is represented by cooperation than forced suppression of the desire for advantage. In those cases when only advantage can cause a person to work, when labor is repulsive and causes psychological resistance, it is even more necessary to encourage "mercantile interest" and various kinds of simple forms of cooperation.

For an understanding of the connection between socialism and cooperation, much can be drawn from Lenin's passing remark in the article "On Cooperation" concerning "the stumbling block for many, many socialists".<sup>9</sup> Here it is important to take into account that before the October Revolution, and certainly under the conditions of military communism, the bolsheviks had a negative attitude towards the Fourierian models of cooperative socialism which left a great deal of economic independence for associations of producers and envisioned a combination of the market and a centralized economic and social policy. The sympathies of the bolsheviks (incidentally, like the sympathies of Marx and Engels as well) were on the side of the opponents of Fourierism, who defended the factory policy of social life and the directive system of organization of production. Therefore the reevaluation at the beginning of the article "On Cooperation" of the dreams of the so-called "old cooperators" and the recognition of the fact that they were the ones who were destined to move aside the stumbling block that for a long time closed off the "mystery" of socialism can be regarded as evidence of a certain change in Lenin's views toward socialism.

In any case there is no question that after 1921 Lenin began to depart from the concept of socialism as a unified nationwide syndicate, one large national factory,

and looked for ways of creating an organization of the socialist economy with multiple subjects. This is confirmed both by the change that took place in his view of cooperation and the criticism typical of V. I. Lenin's later works concerning the previous underestimation of initiative below and the ability of the masses to organize themselves. During the course of this research there arose the Leninist understanding which is important for us of cooperation as a mechanism for including the spontaneous initiative of the masses in the arrangement of collectivist ties. Cooperative circulation was important for Lenin because in it "the real masses of the population actually participate." Thus Lenin linked the idea of cooperation to its understanding of the durability of collectivist ties and socialism as a whole. The only thing durable in social life is that which is created by the people during the process of satisfying their diverse interests, which they perceive as a natural continuation and a necessary condition for their individual life. It is impossible to create a collective social tie through decrees from above. And indeed all known attempts to expand collective ties administratively, by resorting to pressure (for example, the campaign for settlement of rural areas and consolidation of kolkhozes), as a rule, led to the opposite results, to an undermining of the real collectivity that had developed over the decade and to the flourishing of errant individualism.<sup>10</sup>

This is why it is natural for us to have our current desire in certain cases to "begin from the beginning"—instead of a declared formal collectivist tie, taking advantage of initiatives from below, creating viable forms of socialism. The attraction of youth to independent cooperative housing construction and cooperation in daily life and the rearing of children reflects the lack of authentic collectivity, which aggravates the need for independently formed socialism. And there is nothing unexpected in this. As Lenin anticipated, the more durable the political and economic prerequisites for the new system, the greater the individual demands on the condition of social ties. In the end, one cannot be victorious in a matter that is so difficult and new for mankind as the construction of socialism without being prepared to reevaluate what has been done, to restructure existing ties, and repeatedly begin our construction "from the beginning, correcting what is imperfect, and selecting various ways of approaching the task."<sup>11</sup> Our current desires for cooperation are coordinated with a similar world historical approach to the construction of socialism. We are not making the concessions of the "group form of ownership" and we are not turning backwards, but moving forward, toward a new condition of socialism that is capable of providing it with greater historical stability and a more natural unification of personal and social interests.

#### A New Time Requires New Concepts

The last works of V. I. Lenin and above all his article "On Cooperation" make it possible to form sociophilosophical ideas about the causes of the historical stability



of cooperation. They provide justification for a conclusion concerning the correspondence between the current economic and agrarian policy of the CPSU and Lenin's ideas about socialism and the laws of its construction.

But it would be wrong to limit our knowledge of cooperation to the content of V. I. Lenin's article. Indeed, much of what Lenin wrote has not been realized. And therefore today we are forced to finish what has been left undone and achieve a more consistent realization of Lenin's cooperative plan. But cooperation as it is developing now is distinguished from the cooperation of the 1920's and from that which could have been created in the 1930's, 1940's or even the 1950's. All this new content which distinguishes today's cooperation is difficult to explain without going beyond the framework of Lenin's ideas about the causes of the persistence of cooperation in a socialist society.

All one need do is compare those peasants and former petty bourgeois toward whom the most simple methods of involving people in socialist construction proposed by V. I. Lenin were oriented with today's participants in cooperative forms of labor organization and one immediately reveals the newness of today's practical interest in cooperation.

All ideologists of cooperation at the end of the 19th and beginning of the 20th century derive the need for it from the spiritual and moral lack of preparation of the people, who had grown up under the conditions of capitalism, and above all small private producers, for socialist collective labor. This concerned the fact that "the forthcoming society we envision cannot destroy the modern psyche in one fell swoop. It will have to enter on the path of systematic education of the cooperators and the population in general in the spirit of readiness to turn as much profit as possible into common indivisible property."<sup>12</sup> It was assumed that the solution to this educational problem would be facilitated by the supreme principle of cooperation according to which "any personal advantage is inseparably linked to the flourishing of the whole."<sup>13</sup>

V. I. Lenin also saw the advantage of cooperation (as a transitional form of socialist management) in the fact that it, on the one hand, adapts itself to the psychology and to the level of the most ordinary peasant and retains the economic conditions for satisfying the "interest of advantage" of small producers, that is, for retaining their traditional economic incentives for favor and, on the other hand, it contributes to attracting them to the benefits of civilization and knowledge and teaches the patriarchal peasant how to manage business rationally.<sup>14</sup> Cooperation was regarded as a mechanism of the cultural revolution which helped to surmount the contradiction between the political content of the October Revolution and its economic and cultural prerequisites.

Today we substantiate the need for maintaining and developing cooperation by referring to a different "psyche" and different spiritual qualities. While previously cooperation was linked to the notion that people were not civilized enough, and the inertia of patriarchal thinking, now it is linked to people's need, which has been made more acute because of the cultural revolution (because of the achievements of our educational policy), for greater independence in labor, and the desire in reality to feel that one is the master of production, to bear material responsibility for this, and to influence its organization. As the level of education rises in the socialist society and the number of people oriented toward highly skilled, creative labor increases, and as the lack of acceptance of the practice and ideology of total state regulation of social life increases, sympathies grow in the direction of less organized forms of collective labor. It is typical that in the articles about cooperative enterprises that have appeared recently in our press, the following idea is repeated: people prefer small cooperatives because they provide greater independence in labor and a greater sense of "authorship," and they create optimal conditions for the manifestation of qualifications. The creation of cooperative enterprises is usually taken on by masters of their work, people who are looking for the possibility of greater creative self-realization. One can believe the organizers of modern cooperatives when they say that in this new matter the possibility of feeling independent in labor and manifesting initiatives and mastery is more attractive than high earnings.

Publications about the cooperatives that have been created suggest to us a new direction in the research on causes of the stability of cooperation and the continuing social need for it. It is no accident that the latest party documents raise so sharply the question of the need for fuller accounting for the psychological aspects of production.<sup>15</sup> Apparently the time has come to correlate forms of organization of labor and management of production that are known to socialism with the psychology of economic creativity and the basic innate social needs of man.

Of course the psychology of labor and the structure of the social needs of the individual today give us more for an understanding of the prerequisites of cooperation than the social-class structure of the modern Soviet society. And here is an essential distinction between the current understanding of the causes of the preservation of cooperation and the explanation of the nature of this phenomenon at the beginning of the 1920's. Then cooperation was linked primarily to the peculiarities of the class structure of a transitional society and the survival of millions of small proprietors in the country.<sup>16</sup> "The fate of cooperation," wrote N. Meshcheryakov, "is closely linked to the fate of the petty bourgeoisie and as long as the petty bourgeoisie exists—and it shall exist for a fairly long time still—cooperation will also exist."<sup>17</sup>

The fact is that at the beginning of the 1920's the path to socialism through cooperation and its coexistence with

socialism was regarded most frequently as a concession to Russian backwardness, as an atypical, indirect path from capitalism to a collectivist society. In 1921 at the 10th Congress of the RKP(b) V. I. Lenin said that "a socialist revolution in a country where the majority of the population belongs to the small land producers is possible only through a whole number of special transitional measures which would be completely unnecessary in countries of developed capitalism where hired workers in industry and farming comprise the immense majority."<sup>18</sup> Hence follow the conviction that the amount of cooperation in a country that had entered on the path of socialism would be inversely proportional to the level of development of large-scale industry in it and corresponding to the level of assimilation of the achievements of civilization by the population. Hence the concession to the freedom of the producers had to be the greater, the less the amount of large-scale industry that had "altered" it.<sup>19</sup> And the main thing is that it was asserted that "to carry out construction of a proletarian state in a country with large-scale production is easier than in a country in which small-scale production prevails."<sup>20</sup>

In V. I. Lenin's article "On Cooperation," which was written almost 2 years later, the teaching about cooperation requires greater universality. But the attachment of cooperation to the "scattering" of the small producer remains. Also remaining is the conviction that in other, more favorable conditions it is possible to do without cooperation. Incidentally, up to this point the majority of specialists in historical materialism and scientific communism had thought the mediated path from capitalism to complete socialism through extensive development of cooperation is only the lot of Russia and mainly agrarian countries and that, for example, in England with its developed industry it would be possible to do without cooperation in the construction of socialism.<sup>21</sup>

But the practice of socialist construction has not yet confirmed these presuppositions. Thus in the GDR as early as 1971 more than 14 percent of industrial production was in the hands of the private and semistate sector.<sup>22</sup> In this country the most persistent turned out to be private handicraft production and the greatest and most persistent was the need for freedom of the small producer. And cooperation, in spite of initial predictions, became most widespread mainly in the socialist countries with good starting conditions.

The logic of the attitude toward cooperation was in practice directly opposed to what was expected. It was because of the fact that Russia did not have enough culture and civilization and thus frequently even elementary common sense in solving economic problems that it did not take advantage of all the possibilities of cooperation. The natural (coming from below, generated by the initiative of the workers) cooperative movement began to develop at the end of the 1920's. There were many reasons for this of both an objective and subjective nature. Among the latter one usually includes the inertia

of the critical attitude toward cooperation as a phenomenon alien to socialism. VASKhNIL Academician V. A. Tikhonov writes: "Lenin's assertion that 'the structure of civilized cooperatives with public ownership of the means of production is the structure of socialism,' did not reach the awareness of many politicians who sincerely and with conviction called themselves communists. A number of 'superrevolutionaries' did not accept it."<sup>23</sup>

The kolkhozes created in keeping with Lenin's cooperative plan quickly, sometimes from the very beginning, lost the characteristics of a cooperative association and above all the foundations of economic independence, self-management, and self-financing. As a result, the profound essence of the idea of cooperation, its socioeconomic content, and the immense diversity of forms were reduced to a single "collective farm"—a kolkhoz.<sup>24</sup>

On the whole, as I. N. Buzdalov writes in this same connection, the establishment and development of the cooperative structure in the USSR, the first state to enter on the path of socialist transformations, did not take place smoothly or without obstacles. The striving for "decisive collectivization" of the means of production in all spheres of the national economy was directed also against the cooperative form of property.<sup>25</sup> Thus in the first half of the 1960's the urge for expanding administration led to the elimination of industrial cooperation and its collectivization down to the level of state property. It is remarkable that not a single one of the developed countries of the socialist communion displayed such hastiness, in spite of the fact that in these countries (for example, in the GDR and Czechoslovakia) the level of technical supply for industrial cooperation is now much higher than it was in our country in 1964. In Czechoslovakia the share provided by industrial cooperation in the gross production of industry is increasing. In this country today there are 390 industrial cooperatives that join together 184,300 members. There are 7,900 enterprises that belong to them.<sup>26</sup>

And so the higher the level of industrial development and civilization in a country that has entered on the path of socialism, the higher the standard of living of the population, the more actively and broadly it takes advantage of various forms of cooperation. All this confirms our assumption that today when explaining the causes of the persistence of various forms of labor organization it is also important to take into account the sociopsychological conditions of production and the reverse influence of human psychology, traditions and awareness on economic processes. Here there are certain deep, precise laws of labor and the reproduction of social life as a whole about which we know very little today. It would be very difficult to see them in the initial stages of socialist construction when the political problems have overshadowed the question of other conditions, mainly sociopsychological ones, for a full and healthy social life.

But now the experience of socialist construction gives us the opportunity to gain a more complete idea of the dialectic of the changeover to socialism.

### The Reasons for "Leftist Haste"

Yes, with a relatively low level of civilization development there is a greater need for cooperation as the simplest method of participating in culture. But the poverty of a significant proportion of the population, the lack of development of daily life, and the low cultural level of consumption becomes a social basis for the so-called "leftist haste,"<sup>27</sup> in questions of transforming production, which always ends up in an underestimation of cooperation as the "lowest" form of socialist property. The impoverished segments of the population, not having a high level of political culture, are more quickly subject to propaganda of the next historical miracle that will resolve all of their life problems. Such a miracle, that is, the "unprecedentedly brilliant results" of management was what was promised by ideologists and practitioners of "leftist haste" in questions of giving the state ownership of the means of production. In order to achieve the miracle, from their point of view, all they had to do was transform various kinds of cooperative associations into state organizations.

The assumption that was made concerning the causes of the difficult fate of cooperation in our country is also confirmed by the experience in constructing socialism in other countries, for example, China, Cuba, and Vietnam. All these countries, in which poverty prevailed among the population, experienced periods of a "revolutionary attack" on the past, which always led to an underestimation of both cooperation and trade.

One should keep in mind the fact that a population with undeveloped demands, that is not accustomed to the "good life" or "good trade," does not find it as difficult as the population of the developed European countries do to accept a reduction of the standard of living and the discomforts of life that are caused by "leftist haste" in questions of cooperation. In European socialist countries with a traditionally high cultural life (for example, the GDR, Czechoslovakia and partially Hungary) any attempt on the part of the government to reject that which produces advantage for the population and creates additional conveniences in life causes resistance in public opinion. It is no accident that it is in those socialist countries where the culture of consumption is high that one finds the greatest preservation of national traditions, the cult of the home and the cult of the table, cooperation, and above all consumers' cooperation, being developed to the greatest degree. Consumers' cooperation in Hungary actually serves 5 million people, that is, more than half of the population. Our cooperation serves a considerably smaller proportion of the population.

In countries with a high culture of production, where the habit of concrete thinking is widespread, where people have become accustomed to thinking, there is usually

strong resistance to various kinds of philosophical fantasies. In these countries there is a great need to test the theory with practice (actually to test and not to introduce at an accelerated rate) and there are greater misgivings about attempts to judge the future without reference to the present. But in Russia, conversely, there was not enough interest among the intelligentsia in the concrete, organizational aspect of the matter or the details of labor and life. "The Russian person," wrote Lenin, "unburdened his heart of the hateful bureaucratic activity of the home for unusually bold theoretical constructs became unusually one-sided here.... Some kind of extremely great universal land revolution was developed with a boldness unheard of in other states, and right next to it...there was not enough fantasy or not enough patience to apply to this reform those same provisions which produce such 'brilliant' results when applied to general questions."<sup>28</sup>

It would seem that in this attraction of the Russian soul to theorization regarding general world destinies and "land revolutions" one should also look for the reason for the inadequate attention to concrete questions of production organization and also toward cooperation. Instead of engaging in a study of the causes of low profitability of the kolkhozes, we transform them into sovkhozes, hoping that this new movement in property relations would make it possible to overcome the backwardness of agriculture in one fell swoop. These same spiritual intentions moved us in the campaigns for consolidating sovkhozes and populating the so-called "unpromising" villages. In all these cases the habit of one-sided, hasty, and "bold" solutions won out and one could see the lack of patience or, perhaps, the inability or the lack of desire to think. How can a person who knows even the fundamentals of social science believe that it is possible in 3 years to carry out a revolution in agricultural labor that has developed over thousands of years or "jump over" the socialist phase of development in 3 decades! Our passion to "hurry the dream" has cost us dearly and now there is much that we must learn all over again, looking at the losses, and we must assimilate the rational experience of other countries. For example, we can learn from the experience of the GDR where a good deal of attention is devoted to the substantiation of the duration of the socialist phase of development and emphasis is placed on the need to develop the actual basis of socialism, including cooperation and commodity-monetary relations. GDR theoreticians even today do not see the need to transform the peasant into the so-called "agricultural worker" and the rest of the hereditary craftsmen into industrial workers.

All that has been said above gives us reason to assert that our current interest in cooperation is a symptom of improving spiritual health, the victory of common sense, and evidence of a growing need for multilateral interpretation of problems. One of the merits of the political thinking that won out at the April (1985) Plenum of the CPSU Central Committee is the attention to the "needs of life," especially those linked to the essential material

needs of the population and the content and organizational aspect of the economy. In social life we have seen those interests and needs which would be difficult to perceive from the heights of historical generalizations, but which have persistently made themselves known throughout the entire history of socialist construction in all countries. We shall no longer look down from the heights at the "philistine" longing of man for a well-structured life which will not include the waiting lines and the shortages of the most necessary goods that accompany us from childhood to old age.

In essence, the interest in cooperation in our country has always increased when there was an awareness of the need for a radical improvement of the life of the workers and when it became obvious that it was dangerous to carry out hasty communist transformations that were not reinforced by real improvement of well-being and development of production.

#### **On the Path From the Heights of Abstraction to the Heights of Concreteness**

The attitude of the population toward practical attempts to "hurry the dream" has developed differently in various countries of Europe. But in all European countries without exception the cooperative movement has had to win its right to exist in a struggle with concepts of a forthcoming miracle which are severed from life. And the more such a theory has claimed the philosophical heights, the greater the suspicion there has been about cooperation. One of the most famous ideologists of cooperation who was cited above, F. Shtaudinger, constantly criticized this method of thinking which is incapable of relying on concrete knowledge of production conditions. "Such was the destiny of our scholars and intellectuals," he wrote, "that they became accustomed to standing above things and regarding them from above to below instead of judging them from inside, and we even praise such a viewpoint as a special indicator of objectivity. This attitude which 'escapes evaluation' did not notice how it nonetheless resorts to it.... This, of course, does not pertain to all scholars. Physicists, chemists, and mathematicians must proceed from within the nature of their object—otherwise they cannot draw any conclusions. But the so-called historical sciences, philosophy and political economics love to rise above the nature of things on the wings of subjective categories created by abstract thoughts.... As soon as the scientific comparison of things ends here, speculation inevitably begins to appear in judgments, and also it might be talented, it still hangs in empty space."<sup>29</sup> With all the utopian ideas about the "old cooperators" concerning overcoming capitalism through the development of consumer societies, their experience in analysis of the content of various aspects of economic life and above all the analysis of the specific nature of consumption and its role in the life of the society are still crucial. The process of consumption to which the "old cooperators" devoted attention was always more individualized than the process of production and it retains greater independence

and persistence with respect to the political sphere. This is why people's interests as consumers are not equated with their interests as producers. And hence consumers' cooperation cannot be regarded only as a stage, a precondition for production cooperation; it also has its own functions and its own logic of development.

Only in recent years has a reasonable, differentiated attitude been established toward the possibilities of consumer cooperation and its role in the satisfaction of the needs of the population. This was manifested, in particular, in the aforementioned book "Cooperation in the Countries of Socialism," which showed the social homogeneity and importance of all forms (now including socialist) of cooperation. "With the decisive significance of the phase or stage of production," writes I. N. Buzdalov, "all forms of socialist cooperation are socially homogeneous and all of them develop from simple forms to more complex and perfected ones. It is clearly artificial to divide cooperation into lower (for example, consumer, industrial, supply-sales) and higher (production), and also to include cooperative property in the lowest form, and state property in the highest."<sup>30</sup>

It is important to recall that within the framework of Marxism-Leninism new knowledge of socialism was achieved through overcoming the inevitable one-sidedness of philosophical or political-economic interpretation of social life and deepening it with concrete economic and concrete sociological analysis of phenomena. "The change in views on socialism," that took place in the last works of V. I. Lenin, was accompanied by a change, or, rather, a complication of the initial paradigm.

During the period of military communism as V. I. Lenin himself explained, all social processes and all economic issues were regarded from the standpoint of the movement toward communism "along a direct line" and the most rapid possible purging of social life of old things, old forms of organization and stimulation of labor, old life, and so forth.<sup>31</sup> Thus in March 1919 Lenin with his typical passion defended the law according to which "no worker or employee has the right to tend his own animal, poultry or gardens on the farms."<sup>32</sup> "Why did this article become law?"—Lenin asked. And he answered: "In order to create common labor on a common farm. And if they were again to keep individual gardens, individual animals and poultry, and so forth, then, perhaps, everything would return to the small farm as has been the case up to this point. In this case is it worthwhile to fence off the garden? Is it worthwhile to organize a soviet farm?"<sup>33</sup> As V. I. Lenin explained at the 10th Congress of the RKP(b), these same political considerations motivated people to fight against cooperation under the conditions of the civil war. "Cooperation, by singling out elements that are more economic and higher in the economic sense thus also singled out in policy the mensheviks and the socialist revolutionaries." And since the latter "consciously or unconsciously" restored capitalism and helped people like Yudenich, it was necessary to fight

against the cooperative apparatus in which they worked. "If we are going to fight, let us do it in a militant way: we had to defend ourselves and we defended ourselves," V. I. Lenin concluded his analysis.<sup>34</sup> Within the framework of this attitude toward reality, which focused on the political, class struggle and the change of formations, considerations of direct economic advantage, and even the essential interests and living problems of the people are pushed into the background and subordinated to the task of the most rapid liberation of the workers from the influence of the overthrown bourgeois world and the creation of an indivisible overall economy. As N. Meshcheryakov wrote, "the quite natural and inevitable 'ecstasy' and 'intoxication' after the October victory" urged people toward the most rapid nationalization of all means of production and state appropriation of cooperation.<sup>35</sup>

Precisely because capitalism, and exploitation along with it, grew out of free trade and the society was divided into the rich and poor, V. I. Lenin for more than 3 years after the revolution came out against free trade in a socialist society and everything connected to it. But already by the end of 1920 he discovered that if one considers social life only in connection with the movement toward complete equality and the surmounting of everything that is genetically related to capitalism, one loses sight of other tasks that are no less important. For in addition to the problem of "to be or not to be for complete equality?" or "to be or not to be for full communism?" there is also the problem of "to be or not to be for the worker?"

The severest crisis of an economic and social nature and the danger of the death of millions of people from hunger (brought about above all by the sharp reduction of land being cultivated), ruin and epidemics were that "extreme situation" in which was crystallized a new and deeper vision (a new paradigm) of the radical problems of being human.

In the middle of the 19th century it seemed that the main danger for mankind was concentrated in the psychology of the philistine, the petty bourgeois, whose aspirations were directed only toward getting rich, living, and reproducing. At the beginning of the 20th century in the extreme situation of the disintegration of all the foundations of life Lenin sees that the desire to get rich, live, and reproduce also has social value. It leads to the conclusion: "There is no need to fear that the petty bourgeoisie and petty capital are growing. It is necessary to fear that the condition of extreme famine will last too long."<sup>36</sup>

What was new in V. I. Lenin's altered approach to problems of the development of socialism was the desire to combine communist development and the movement toward complete equality and the development of a sense of human dignity and freedom with the retention of the primary social conditions of life, the desire on the part of people to work, multiply, and improve their lives. The fact that the approach to social life had greater

content than before was achieved by augmenting the dynamic approach (emphasis on change, the changeover of the society to a new condition) with the functional (emphasis on primary living functions of man and the fundamental conditions for the preservation of life). The new approach made it possible to see the real contribution of commodity exchange to the strengthening of the foundations of social life. In his later works Lenin draws attention to the fact that under existing conditions commodity exchange is a primary condition for awakening in the peasant a desire to work and expand planted areas, the most reliable form of connection between the city and country.

On the path of this movement from the heights of philosophical or political economic knowledge of socialism to concrete knowledge about concrete mechanisms for stimulation and organization of labor arises today's knowledge about cooperation.

### The Crisis of the Idea of "Total State Monopoly"

We even see such a "detail of life" as the natural limits of state appropriation of public production. Yes, the experience of socialism confirms the decisive significance of state ownership of property in the life of the socialist society. It is a guarantee of its political stability, it makes it possible to carry out planned reproduction of the basic conditions of life, and it determines the content and direction of all other nonstate forms of labor organization. But the experience of real socialism shows also the futility of desire to achieve complete, absolute state appropriation of production. As a rule, after the achievement of a certain level of state appropriation, further increasing this level not only does not increase the effectiveness of public production but, on the contrary, leads to its decline. This is why in a number of socialist countries after attempts to achieve complete state appropriation of industry, trade, the sphere of services and even the agrarian sector there followed a movement backwards, a restoration of cooperative enterprises, private subsidiary farms, and sometimes even various forms of individual entrepreneurial activity. The laws of dialectic are indeed all-powerful. It is impossible to overcome the desire of life itself for retaining a diversity of forms. It is no accident that in recent years the conviction has become stronger that the so-called socialist single structure as homogeneity and the subordination of all social life to one form of labor organization cannot be regarded as the final goal of historical development. Diversity of forms of life activity is an indispensable condition for the development of socialism.

Further, it is necessary to pay more attention to the dialectical law of the changeover from quantity to quality. The experience in socialist management showed that the degree of planning, centralization and coordination of production operations that is typical of a large industrial factory cannot be reproduced on the scale of the state. Especially one as large as ours. Expansion of the number of objects of management cannot be limitless. At

some point one encounters the problem of megalomania and the ineffectiveness of a rigid dispatcher-like or director-like style of management of the economy.

Today's more realistic attitude toward the possibilities of state organization of public production is of decisive significance for developing new ideas about cooperation. For the attitude toward cooperation in all stages of the development of our society was determined by the attitude toward the possibilities of the state form of labor organization. When the opinion prevailed that the only effective form of organization of "common labor in a common society" was the state form, cooperation began to be crowded out. It was being crowded out most resolutely during the period of military communism. Within the framework of ideas prevailing in the party at that time concerning socialism as a unified nationwide syndicate where all members of the society work as people who are hired by the state of workers and peasants (and work equally, to be sure, while observing the measure of work and receiving equal wages for the work) there was no place for cooperation. Not only for the industrial (as a rule, the urban form), but also for the agricultural. Under the conditions of the grain monopoly, and the prohibition of private trade, especially after the introduction of the requisitioning of farm produce (January 1919) there was no possibility even for the development of supply-sales and credit cooperation. And in the future, which involved the disappearance of money and monetary circulation, this possibility was not even envisioned.<sup>37</sup>

It must be noted that on the basis of the experience of military communism V. I. Lenin had already discovered the difficulty of achieving state organization of production on a national scale in a way analogous to that of one large factory. "Theoretically it is not necessary to accept the idea," said V. I. Lenin at the 10th Congress of the RKP(b), "that a state monopoly is best from the standpoint of socialism. As a transitional measure in a peasant country which has industry—and industry works, and if there is a certain quantity of goods, it is possible to apply a system of taxation and free circulation."<sup>38</sup> But still, even in this case, as one can see from the excerpt that is cited, Lenin linked the state appropriation of production primarily to the specifically Russian situation. V. I. Lenin called complete state appropriation "stupidity and suicide," "for this policy is economically impossible" with the existence of millions of small producers.<sup>39</sup>

Our current understanding of the place of cooperation in a socialist society derives from a different kind of criticism of illusions concerning state monopoly over production activity. While at the beginning of the 1920's, the limits of state appropriation were linked to external, random factors (for example, the industrial underdevelopment of prerevolutionary Russia), at the present time these limits derived from the internal nature of the process of state appropriation and from the intrinsic inability of the Center, the state apparatus, to bring all economic ties in society under its control.

Criticizing the "blind faith in the omnipotence of the apparatus" at the June Plenum of the CPSU Central Committee of 1986, M. S. Gorbachev emphasized that under modern conditions it is inadmissible to solve all problems from the center and this is also practically impossible.<sup>40</sup> Even under conditions where only several percentage points of the physical positions of economic circulation are planned centrally, the volume of this work exceeds the capabilities of planning agencies.<sup>41</sup> Central state agencies are not in a position to take control "from above" of 500 billion economic ties in the society. Incidentally, even if we did have the capability of increasing the number of planners severalfold and because of this increasing the volume of assignments planned from above, even if we managed to achieve "comprehensive planning from the center," such an achievement would not improve but would worsen the satisfaction of social needs.<sup>42</sup>

From the center it is difficult to take into account the specific details of the daily needs of the population of individual regions and areas. Within the framework of a "rigid," previously drawn up production program that is sent down from above (the plan by its very nature is always bogged down by the past) it is impossible to react to changes in market conditions or take into account the dynamics of the demand. It is even more difficult within the framework of such a state production program that is intended for several years and sometimes for decades to react to scientific and technical progress and take advantage of its achievements in production.

Champions of complete state appropriation of production have put forth this desire (most frequently instinctive) to exclude from public life everything that is uncontrolled and unpredictable. Hence the organic link between the concept of a unified nationwide syndicate, which is based on one form of property, and the desire for maximum homogeneity in the organization of production, maximum strengthening of the mechanism of organization and control, a system of norms and directive indicators that is identical for the entire country, and so forth. From the standpoint of such ideas about the social good, state appropriation of all national production is also useful in that it leads to a sharp reduction of differentiation in social structures, subordinates the individual and specific to the universal, and presupposes the development of a general measure which would make it possible to control all the various needs and interests.

One can now see that this kind of vision reflected the specific nature of factory, machine production. It inevitably had to be reinforced under the conditions of the predominance of simple labor and conveyor production which presupposed the maximum possible removal from the internal "human subjectivity" of the worker. And there could be no other idea about rational organization of social life.

But the higher the level of state appropriation of the economy, the more difficult it is to take into account the uniqueness of its subdivisions and processes. And the

stronger the "protective reaction" of the central, all-powerful agencies—the desire to introduce quantitative undifferentiated indicators—the clearer the orientation toward the gross output approach. The shifting away from quality and from the consumer value of what is produced that is inherent in the latter, that is, the superficial evaluation of production and the condition of the economy are a shadow, an inevitable accompaniment to the desire for total control by the state over all manifestations of economic life.

And another important characteristic of the concept of total state control and direct management of the entire national economy: it has always given preference to the simpler methods of attracting people to labor and appealed to the better aspects of human nature, to altruism. But at the same time it has not rejected political and legal coercion and has striven for a system of production behavior that has no alternatives. This has been the case not only in theory (for example, in the works of Owen), but also in practice.

The system of the absolute monopoly of the state over the organization of production, which developed under the extreme conditions of the civil war and then was reproduced under the conditions of collectivism and industrialization, relied on methods of mobilization and labor obligation. The movement toward a single structure was reached through legal and political reduction of the alternatives for economic activity and prohibition of individual entrepreneurship, private trade, craftsmanship, administrative limitation of forms of cooperation, and so forth. And this was predictable, for complete control over the diversity of life, needs and interests can be achieved most easily through prohibition, which is not subject to generalization, which returns to the past, to differentiation, and to restoration of the special. The belief in the omnipotence of state forms of labor organization is usually combined with a belief in the creative force of coercion and prohibitive activity. It is remarkable that all opponents of cooperation have placed labor obligation and political coercion to labor higher than economic methods of stimulating production activity. Even at the 10th Congress of the RKP(b) A. D. Tsyurupa and M. I. Frumkin spoke about state coercion to labor as a "more perfected" form of labor organization than cooperation which, from their point of view, was "hostile" to socialism.<sup>43</sup>

As concerns the idea of cooperation, it reflected the desire to avoid the lack of alternatives and complete regulation of economic life. Economic independence of a cooperative enterprise always entailed an element of unpredictability—for example, the future wages of its members. If the general total organization of production reflects the desire for initial determination both of the working conditions and wage conditions and to adhere as long as possible to what has been prescribed, the incentive for cooperation, conversely, is to maintain a certain economic indeterminacy, the possibility of going beyond the limits of what exists, expanding capital,

increasing profit, and so forth. It is not in vain that Fourier's system was called world anarchism. The stimulus for creativity and the more so economic creativity was the indeterminacy, the hope of reaching something new, previously unknown and inaccessible. This is why under the conditions of the striving for total state control over production, cooperation is perceived as a phenomenon that is alien to socialism and impedes the achievement of universal determinacy.

The objective limit of state appropriation of economic life and direct subordination of the activity of individual enterprises to directive agencies is the need to maintain conditions for the independent activity of the workers and for the self-regulation of the economic life of the society. Under conditions when all manifestations of economic life, right down to each production operation, are programmed by a system of established normatives (quality, expenditures, and so forth), there can be no discussion of any initiative of the masses. A real, and not contrived, contradiction of socialism consists in that the need for self-organization, for economic initiatives not programmed by the plan is just as objective as the need for a plan and for a state guidance of economic processes.

It is precisely this understanding of the limits of state appropriation of economic processes that is, in our opinion, the new and decisive argument in favor of cooperation. It has turned out to be historically stable for there are economic tasks which it can resolve more simply and easily. If in principle it is impossible to construct all management of production along the vertical, from the center, it is desirable to retain self-regulation by collectivist economic formations that are capable of forming the horizontal ties that are necessary for the life of the society. The cooperative as an independent organization is capable of reacting quickly to a newly formed shortage of horizontal economic ties. The difference between state and cooperative forms of labor organization are determined primarily by the qualitative peculiarities of the sphere of production and their specific content. In places where the satisfaction of social needs is impossible without a socialist state, without a number of strictly fixed production parameters, it is necessary to create nationwide socialist enterprises. But in places where the content of labor itself and its product require the maintenance of the greatest possible amount of economic independence, where it is necessary to have great sensitivity to the needs of the people, it is expedient to create cooperatives that are controlled by elected officials of the workers who are under daily unwavering control of the cooperative members who have elected them, are not associated through administrative distributions with the center, are flexible in economic work, and allow the speediest and freest manifestation of advantageous local initiative. As the eminent agrarian A. V. Chayanov thought, cooperation is the best apparatus for work in rural areas.<sup>44</sup>

Labor on the land presupposes a greater amount of integrity than does the labor of the industrial worker as



well as better conditions for self-control and self-organization. For the decisions about what to do on the land today can be made only today and only by those who are working on this land. For ideologists of the cooperative movement in Russia at the beginning of the 20th century it was obvious that "those advantages which the largeness of a farm and the improvement of technology produced in farming are not as great as the advantages they produce in industry. Small, technically weak farms in agriculture can exert a great deal of resistance to their large competitors, which is completely impossible in industry."<sup>45</sup> This is why, as A. V. Chayanov said, "in our soviet state in all cases where cooperation acquires sufficient strength and force, it takes over, one after the other, various branches of economic work in rural areas that was previously done by the state apparatus consisting of specialists and employees appointed by the central government."<sup>46</sup>

The return of a serious attitude toward the possibilities of the utilization of various forms of socialist public property is useful not only for practice, but also for the theory of socialism. Today there is not a single problem in the theory of socialism that can be seriously discussed without determining its relationship to the initial factors of reality that are fixed in the concepts "state organization of production" and "cooperative organization of production." We use the latter concept instead of the concept "cooperative form of property" because in a socialist society, in keeping with the views of Marx, Engels, and Lenin, one must speak primarily about the special cooperatives that are based on public ownership of the means of production.<sup>47</sup> It is precisely the political-economic equation between the ideas of sequential socialist cooperative production, based on public ownership, and the cost-accounting nationwide enterprise that give us justification to reduce the problem of the relationship between the two forms of socialist public ownership to the problem of various means of combining individual, group, and public interests and to the problem of various methods of labor organization.

Even before the experiment in socialist construction it was clear how utopian was the idea of totally cooperative production and how utopian were intentions to construct socialism without resorting to nationalization of fixed production capital and the development of large-scale industrial production. Therefore there were no attempts to realize the concept of cooperative socialism. But the concept of monolithic labor organization on a nationwide scale turned out to be feasible. And only now, at the end of the 1980's, after more than a half-century of experience in socialist management, have we become convinced of the futility of attempts to transform methods of state monopoly over economic activity into the norm for management. For a long time, writes G. L. Smirnov, we "as though bewitched, looked on centralized forms and methods of management and planning that developed during the 1930's and were partially modernized later, accepting them as the only correct and the most complete expression of the essential

characteristics of the socialist system. It is known that centralized forms of management of the economy played an immense role in socialist construction, above all in carrying out such important tasks as industrialization and collectivization of the country and immobilizing the economy during the war against Hitler's fascism. But centralized forms of management in that previous form turned out to be ineffective under different conditions."<sup>48</sup>

That which for more than a century was regarded by socialist thought as a universal method of organizing production and resolving human destinies is now regarded as no more than one of the possible models of association of labor. That which a half century ago seemed to be the social advantage of state-directed methods of management of the national economy (for example, the application of a single norm or a single labor rhythm to millions of workers, equality of wages, and so forth) today is seen as the inevitable outlays of the first, initial forms of socialist organization of labor which are conditioned, moreover, by the inadequately high level of development of the productive forces.

### The Humanist Calling of Cooperation

And so it is already clear that direct inclusion of individual labor for the realization of social goals, allowing no deviations, and uncompromisingly collectivized labor, as it was understood in the middle of the 19th century, are impossible in principle. They are impossible not only because of the universality and infinite nature of the ties that lie at the basis of modern production, but also because of the age-old contradiction between the social and spiritual nature of man and those forms of organization and management of production which must be the end of consistent realization of the idea of one factory organized on a national scale. In spite of the fact that ideologists of cooperative socialism (for example, Fourier) were utopians in questions of the struggle for power and were unable to look at the law of development of industrial production, still in questions of social psychology and human nature they turned out to be more perspicacious. Complete determinacy in labor and the initial givenness of its conditions and even equality of remuneration cannot delude man. It is difficult for man to reconcile himself to the role of a cog, even if he is convinced that this is justified and useful. He strives to retain the right to its own initiative, conditions for competition, and a certain amount of autonomy. Therefore he consciously or instinctively resists dispatcher organization of labor, which does not leave room for his initiative. An unskilled laborer who services conveyor-flowline production is forced to lose his autonomy in labor. Under special, extreme conditions the entire society can put up with this, as it did with equalizing. But the possibility of temporary, historically conditioned reconciliation of the society to a system of total state regulation does not eliminate the fact that it is against nature.



It does not follow from this, of course, that all state enterprises need to be transformed into cooperative ones. They are speaking about introducing into state production the experience accumulated in cooperative with individual initiative in labor and personal responsibility for the activity of the enterprise. It is necessary to increase the effectiveness of the functioning of state property and instill in workers of enterprises the feeling of being a master, relying on principles that have proved themselves in cooperatives. It is because of this that effective functioning is not a specific feature of individual forms of ownership and there exists the possibility for exchange of experience in organization among various forms of socialist property. Such is the dialectic of history. The dominant form of socialist public property is being improved today as a result of borrowing principles from the subordinate form of property.

Forms of labor organization and social values formed within the framework of cooperative movements are beginning to be used to overcome the critical internal contradictions of rigid, direct methods of combining individual and group interests with social ones.

The new attitude toward cooperation is thus also linked to the awareness of the possibility of the coordination and coexistence of various economic forms and the utilization of the advantages of their interaction. It turns out that social and economic problems can be resolved by various methods and not only through absorption of one economic form by another as seemed to be the case in the first stages of socialist construction. And there is hardly any point in "taking life away" from all economic, sociopsychological and moral structures that have served the preceding social formation. For many of them, and above all the positive stimuli for labor at whose basis lies the need for competition and self-expression and the improvement of the conditions of their life, can be used for the dynamism of our economy and all social life. The more so since in the modern stage of the development of socialism there arises an extreme need for these stimuli. After all, it is very difficult and practically impossible to use political and legal methods to force people to create new technical equipment, engage in other kinds of creativity, or even achieve professional growth. Progressive technical equipment and technologies are generated by positive stimuli, the need for creative self-realization, and developed economic interests.

But the nucleus of the idea of cooperation also includes this principle of coexistence, coordination of old and new incentives for labor, and old and new principles for the organization of production. As V. I. Lenin, it is able to unite in itself "various principles of formation."<sup>49</sup> This reconciling peculiarity of it is applied in various stages of the development of socialism in order to resolve various social problems. In the transitional period, cooperation reconciles the small private owner to socialism, and today it reconciles old and simple methods of socialist organization of labor that took form in the

extreme conditions of the prewar five-year plans, with the more flexible forms of combining the producer with the means of production that contribute to his greater independence in labor. In the former case, it acted more frequently in peer form as a type, a subject form of management, while today one uses primarily its philosophy, its orientation toward constant economic search, the ideas of self-support and self-financing, flexible forms of payment, and so forth. But in either case cooperation has led to tolerance and attention to various manifestations of life and respect for the traditions of labor.

All this strengthens our conviction that the current attitude toward cooperation as a whole is evidence of the humanization of our economic and social policy. The rebirth of interest in cooperation is the result of qualitative transformations in our awareness. As in the 1920's, the change in views about cooperation is accompanied by an attitude toward trade that is free of previous prejudices. We are gradually overcoming the previous aggressive attitude toward commodity and monetary relations as a phenomenon that is supposed to be alien to socialism and undermines economic and social justice. To be sure, here the experience of the decades of socialist management encourages us to go further and to see that which was difficult to see in the past. Today we can see more clearly the danger of departmental egoism (in the 1920's it was called departmental imperialism), the bureaucratic striving to put an end to free exchange and commodity-monetary relations as quickly as possible. Although it is already clear that without commodity and monetary relations it is impossible to construct a rational, economically effective socialism.

The externally noble idea of gradually crowding out economic forms of coercion to productive labor (economic levers and incentives) in practice ended up by disturbing certain initial conditions for reproduction of social life. The underestimation of economic forms of control over the quality of socialist labor caused harm to nature. The nonpayment for natural resources and above all the soil and water ended up in progressive violation of the primary conditions for life. On the whole during the past half-century the fertility of the soil of our state has decreased by one-third and the area of cultivated land has decreased by one-third. The nonpayment and the abundance of resources lead not only to the exhaustion of nonrenewable resources, but also to a disintegration of morals. The thoughtless attitude toward nature and the extravagant consumption of soil and mineral resources shows our spirits will under development and our loss of a feeling of responsibility for the future of our people, our country, and socialism.

There is a widespread opinion that the observance of principles of equivalency in relations among people leads to their moral degradation. But in practice an underestimation of this principle (primarily in relations between people and the society) and reliance on nonretribution have led to the habit of living at another's expense.

Under the conditions of socialism preserving the market and preserving the consumer's right to select the object of consumption are tantamount to preserving the primary political conditions for popular control over the activity of planning agencies and the quality of management of the national economy. Trade and commodity exchange are essentially directed against uniformity and against the tendency toward state bureaucratic imperialism, and they counteract the idea of a commanded, administratively regulated economy. Trade is the incentive and source of differentiation, both of objects of consumption and of human demands. And the market is always generating new demands which are difficult to take into account at the time when various kinds of directives are being drawn up. It undermines the real authority of the administrators of "one large factory," for it leaves the last word with the purchaser. The market teaches people to think and control the intellect of the bureaucrat.

This is why there is such a great temptation for the bureaucrat to free himself once and for all from the sharp-eyed controlled and to put an end to commodity-monetary relations, trade, cooperation, and so forth. The more so since over the course of decades favorable political and ideological conditions have existed for these half-formed intentions.

It is now already obvious that the battle provoked by "superrevolutionaries" and then by some of our philosophers and political economists against all forms of nonstate production and nonstandard trade has caused considerable harm to the foundations of national life. The tragedy is that this practice of destroying the foundations of social life has been regarded as the next achievement on the path of communist construction. No attention was paid to the fact that trade is not simply an operation for the exchange of goods for money or money for goods. This is also a life activity, a means of communication and spending time, an expression of traditions and the culture of the people. Trade fairs were not only a place for exchanging goods for money, but a part of life, a celebration. Tear the traditional bazaar out of the life of the peoples of the East and you will destroy their life, you will deprive them of their basic motivation. The unsuccessful experience of Khomeini's struggle with trade in Iran is instructive. But, apparently, Russia has suffered more than any other country from the struggle with trade. The elimination of the traditional trade fairs led to a desocialization of the population and the destruction of certain elements of national self-awareness.

Even greater harm to the national culture and the national self-awareness is caused by the elimination of national trades and industries, which after the revolution were concentrated within the framework of industrial cooperation. The small Russian cities probably suffered especially from the zeal of the proponents of the concept of the single large state factory. The uniqueness of these cities, their coloring, and their spiritual atmosphere were

related to the specific features of the trades that were cultivated. Therefore the "struggle that was typical of the entire postwar period against medium-sized and especially small enterprises and the policy of curtailing local industry, cooperatives of tradesmen, and national industries had the same fateful consequences as the policy of abolishing "unpromising" villages, taking the peasants out of the towns, and transforming peasants into agricultural workers. This led not only to the loss of work skills that have been cultivated for centuries (and, on the whole, to a reduction of the culture of labor in the society), but also to a violation of the reproduction of life in small cities. Small cities of Russia during past decades have also lost population just as small villages have. We link our hopes for regenerating them to the restoration and development of cooperation.

Let us sum up the generalizations to which we have been led by our analysis of the basic factors in the regeneration of interest in the cooperative form of production. Cooperation is a necessary structural element of socialism, one of the conditions for its preservation and development. "From the force that opposes the dominant socioeconomic structure, which deepens the contradictions of capitalism, the cooperative movement under socialism becomes an organic constituent part of the socialist society and at the same time a force that contributes to the development and improvement of the entire system of production relations."<sup>50</sup> This conclusion is unquestionable. As was shown above, without cooperation it is impossible to have normal functioning of the socialist society and complete and efficient satisfaction of the social and economic needs of the people.

Cooperation is inseparable from socialism for it is the most effective means of resolving internal, imminent contradictions that are inherent in it, the prevailing state form of production. Without cooperation in a number of cases it is impossible to control economically and verify the economic activity of national enterprises. Cooperation is a means of self-regulation of the socialist economy. As the most effective and flexible form of socialist organization of labor, the land and in the sphere of services it becomes a prerequisite, a condition for maintaining the primarily state form of organization of labor in industry. And at the same time cooperation in all of its forms, including housing and consumers' cooperation, is the most successful form of economic independence of the masses and, consequently, a necessary condition for the psychological health of the society. Cooperation is one of the possible means of fighting against bureaucracy that is imminently inherent in the state form of production. A cooperative has an antibureaucratic direction because it is protected from incompetent intervention from outside and is guided by people who have invested their property in its creation and therefore are personally interested in efficient management, people who bear personal responsibility for the results of its economic activity. Cooperation directly attracts people

to the performance of functions of productive accumulation which was in the framework of the nationwide form of property has up to this point been completely the responsibility of the state.

#### Footnotes

1. Stalin, I. V., "Ekonomicheskkiye problemy sotsializma v SSSR" [Economic Problems of Socialism in the USSR], Moscow, 1953, p 68.
2. Materials of the Plenum of the CPSU Central Committee, 27-28 January 1987, Moscow, Politizdat, 1987, p 9.
3. Ibid.
4. For example, on the eve of the 9th Party Congress, the person in charge of the cooperative division of the USSR VSNKh at the time, V. P. Milyutin, published in the press ideas about eliminating the "parallel existence of state and cooperative enterprises." The author asserted: Since cooperation is the organization of individual peasant groups, its interests are supposed to be opposed to the interests of the national economy as a whole. V. P. Milyutin's position was supported by I. I. Skvortsov-Stepanov, A. D. Tsyurupa, and A. I. Sviderskiy. (Figurovskaya, N. K., "Agrarnyye problemy v sovetskoy ekonomicheskoy literatura 20-Kh Godov" [Agrarian Problems in Soviet Economic Literature of the 1920's], Moscow, 1978, pp 52-53).
5. "Therefore," one of the theoreticians of socialist cooperation, N. Meshcheryakov, wrote in 1922, "one must recognize as a gross mistake the opinion of those comrades who for the first 3 years of the proletarian revolution underestimated cooperation and thought that it was living through its last day, and also thought that it was possible to destroy cooperatives and transfer their functions to agencies of the proletarian state" (Meshcheryakov, M., "Zadachi sovremennoy kooperatsii" [Tasks of Modern Cooperation], Moscow, 1922, p 4).
6. Materials of the 27th CPSU Congress, Moscow, 1986, p 40.
7. Lenin, V. I., "Poln. Sobr. Soch." [Complete Collected Works], Vol 45, p 373.
8. Ibid., p 370.
9. Ibid.
10. Tolstykh, V., "Socialist Collectivity and Individuality," PRAVDA, 20 March 1987.
11. Lenin, V. I., "Poln. Sobr. Soch.," Vol 43, p 31.
12. This idea pervades the book of one of the ideologists of consumer cooperation, F. Shtaudinger, "Marxism and Consumers' Cooperation" (Moscow, 1919, translated from the German), which V. I. Lenin read while he was working on the article "On Cooperation."
13. Shtaudinger, F. "Marxism and Consumers' Cooperation," Moscow, 1919, p 16.
14. Lenin, V. I., "Poln. Sobr. Soch.," Vol 45, p 377.
15. Materials of the 27th CPSU Congress, 1986, p 85.
16. Lenin, V. I., "Poln. Sobr. Soch.," Vol 43, p 226, 227; Vol 45, pp 370-372.
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### **Institute Directors Discuss Introduction of Scientific Achievements**

18200006b Novosibirsk *EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO)* in Russian No 9, Sep 87 pp 34-52

[Interview with V. V. Boldyrev, corresponding member of the USSR Academy of Sciences, Director of the Institute of Solid State Chemistry and Processing of Mineral Raw Material of the Siberian Branch of the USSR Academy of Sciences, and O. I. Lomovskiy, the institute's director for scientific work, candidate of economic sciences, by Ye. Lysaya: "On Watchmen in Science and Science Without Watchmen"]

[Text] The more fundamental science goes after applied results and, on their basis, the development of principally new technologies, and these are precisely the tasks set for it by the 27th CPSU Congress, the more frequently it encounters problems of realizing the achievements of its research in practice. What is the reason and what is the nature of the difficulties that arise during introduction? At the request of EKO, these questions are answered by Corresponding Member of the USSR Academy of Sciences, V. V. Boldyrev and Candidate of Chemical Sciences, O. I. Lomovskiy.

### **To Have the Ability and the Desire To Support the Truly New**

[Question] Your institute represents a new area of chemistry. How is its influence on scientific and technical progress manifested, and what are the prospects for its development?

[V. V. Boldyrev] Our time is frequently called the age of atomic energy and the age of the mastery of space. All this is true but, perhaps, there is no less justification for considering our age to be the age of the mastery of the solid state, the recognition of its mysteries and peculiarities, and the active utilization of these for the good of mankind. Without solid state technologies, we cannot even imagine the development of many branches of modern technology, and certain of them—laser and semiconductor equipment, the creation of new systems for recording information, new methods of obtaining and accumulating energy, the creation of composition materials for the broadest range of purposes, and so forth—are largely obliged to the deepening of our knowledge about the nature of the solid state and, above all, the development of solid state physics. The success of this science and the unexpected, revolutionary applications of its achievements are instructive and bring about the need to conduct research in this same direction in the areas of knowledge that border on physics.

These include solid state chemistry—a young but very rapidly developing area of science that studies the specific nature of chemical processes associated with the way they take place in the solid state. Like any young

area of science, solid state chemistry has not yet received universal recognition such, say, as solid state physics has. There is not even always a unanimity of opinions regarding whether or not this science has the right to an independent existence. When this question is discussed two objections are usually made. Some people, while not denying the specific nature of chemical reactions in the solid phase, speak of the fact that chemical reactions in the solid phase comprise an insignificant minority of all the chemical reactions that take place in nature and are utilized in technology. Therefore it is hardly worthwhile to "institute" a special scientific discipline for such an exotic phenomenon. Others, conversely, agree that chemical reactions in the solid state are widespread in nature and are applied in technology, but they are not very specific and the concepts and ideas that already exist in classical chemistry are already adequate to describe them.

Both of these viewpoints are erroneous. Let us begin with the first. Are chemical reactions in the solid phase really so rare and exotic? The facts show that this is not true. As an example, let us take the chemical solid phase reaction in cement production, which is the largest in terms of scale: it is the synthesis of the basis of the cement clinker—tricalcium silicate—from calcium oxide and silicon dioxide.

The chemical reactions in the solid phase are fairly specific. The components participating in them are usually not found mixed at the molecular level. Therefore in the solid state the so-called metastable conditions—the intermediate phases when changing over to a new condition—from the standpoint of ordinary classical chemistry live for an unusually long time and therefore the solid state is "rancorous," it remembers what was done with it before the chemical process began to take place: how it was obtained and stored, and what kinds of preliminary processing were done to it. A simple example: if a nail is bent the corrosion will proceed more rapidly at the point of the bend. But, as it turns out, the rancor of the solid state can be used for good. If before the beginning of the reaction we are able to create special points in it—potential centers in which the interaction of substances is to begin first—we provide for the main reaction to take place in the necessary place. That is, we obtain the opportunity of directing the reaction.

The possibility of controlling chemical processes in the solid phase means that there are prospects for a sharp reduction of the number of stages in technological systems for processing mineral raw material and obtaining materials with new properties. Another most important merit of dry technologies consists in that, as a rule, they lead to less harmful ecological consequences and make it possible to save energy, production areas, and labor expenditures. This is why at one time Academician G. I. Marchuk called solid state chemistry the chemistry of the future.<sup>1</sup> And this is why in all economically developed

countries there is a general interest in solid state chemistry and in problems of its development and the possibilities that are opened up when its results are utilized in practice.

Such firms as the Martin Marietta Corp., Bell Telephone, and General Electric in the United States, Hitachi, Hosokaba, and Toyota in Japan, Phillips, Riber, Sandwick, Verein Deutsche Zement, Verka, and Chiba in Western Europe are constantly supporting and financing work in the area of solid state chemistry that is being conducted by universities. In France, Japan, and the FRG solid state chemistry is one of the few areas in which they are organizing scientific research institutions financed directly by the government. The largest international publishing firms such as Pergamon Press, the academic press, and Elsevier have begun to publish special literature and journals on these problems.

A certain amount is also being done in our country. Our institute's organization, true, is still the only one in the country with this profile, but the specialization in the study of "solid state chemistry" in certain VUZes of Moscow, Leningrad, Novosibirsk, and Sverdlovsk can be regarded as steps forward. But these are only the first steps. In fact, if one takes a look at the list of scientific disciplines in effect in our country, we will not find solid state chemistry there as an independent discipline. It is still included as a part of inorganic chemistry. This means that you will not be able either to defend a dissertation on solid state chemistry or obtain a diploma in this specialty upon completion of the VUZ.

But that is not the main thing. The main thing, at least if one has in mind the subject of our conversation of today, is the underestimation, if you will, the lack of understanding of the role and significance of fundamental research in new directions of modern science for our industry. And solid state chemistry can be a clear example here.

New directions in science most frequently arise at the junctures of various areas of knowledge. Therefore their practical application takes place on various planes and, as a rule, has to do with not one branch, but several if not many of them all at once. It is appropriate to recall the example of our institute, where the achievements of solid state chemistry are used to solve the most diverse technical problems, beginning with the discovery of mineral raw material, the production of new construction materials and ceramics, and ending with new technology for printed circuits, new photographic materials and energy accumulators, and the technology for obtaining stomatological amalgams for the medical industry.

[Question] How are the proposed technologies realized in production practice and how broad is the sphere of their application?

[V. V. Boldyrev] In answering your questions each time, unfortunately, I must add the negation "not" or, to make the situation sound less severe, I must say "not being applied very much, and being poorly introduced...." As they say, as long as people can eat doughnuts you will never attract anybody with bread. Take, for example, the photographic systems that do not use silver. People are talking about them now, but they are not beginning to realize the new technology. And silver is in short supply. It is necessary to save on it. And incredible efforts and funds are spent on organizing the separation of silver from wastes. Immense sums of economic effect are expended on the utilization of silver wastes. And the fact that it is possible to use photographic systems that do not use silver at all still does not interest very many people. And yet the systems are significantly less expensive.

Still, whether we like it or not, life forces us to resort to the photographic systems that do not use silver. According to official data, the consumption of silver in the world has been exceeding the amount of its extraction in recent years. At the same time, the number of consumers is constantly increasing. The main large consumers—the photographic and movie industry and the jewelry business—were joined in the second half of the 20th century by radioelectronics, space equipment, and other branches. Therefore even now it is necessary to prepare carefully for changing over to technologies that do not use silver. We have tried to bring the printing industry into this category. It should be quite interested in ways of obtaining photographs without using silver, but so far our efforts have been in vain. The printers still have the opportunity to "eat doughnuts" and they do not think about their life bread.

[O. I. Lomovskiy] Something similar is taking place with the introduction of our method of applying metal to circuit boards. I would not like to tire EKO readers with technical details, but still I shall relate briefly the essence of the new technical equipment. Circuit boards are the basic components of the majority of radioelectronic devices and computer equipment. These are parts made of insulation materials (in other words, dielectrics—substances that have a very low level of electric conductivity), on which are applied wires that join terminals of microcircuits, transistors, resistors, and other elements. As of today the most widespread and perhaps the most technologically advanced is the following production process for manufacturing circuit boards. On a laminated plate (dielectric) a thick piece of copper foil is glued from two sides (copper, as you know, has high electric conductivity and is one of the most widespread conductors of electric current). With the help of the photographic method, the necessary electric circuit is drawn onto the foil and with selective etching there appears an outline of the circuit of conductors. In order to join these current tracks with the semiconductors, a number of openings are drilled into the printed plate—about several thousand—and they are metalized—coated with copper—using a palladium catalyzer. The metalization of the openings is a complicated and

extremely labor-intensive technological process that has many stages and requires a large quantity of equipment. But it is also very capricious. Today there can be a defect because it is very hot and tomorrow—because it is cold or the humidity is high.... The point of our development is that we have rejected the path of the palladium catalyzer and made the copper itself the catalyzer or, more precisely, its solid heat-resistant compound—copper hypophosphite.

The chemical meaning of the technological process is fairly simple: on the surface of the dielectric one applies a heat-sensitive compound—copper hypophosphite. In the process of its decomposition a heat-conducting layer of copper is formed. And the thickness and density of this layer is such that there is no need for all the further processes of chemical application of copper, which are required in the traditional technologies. Labor expenditures decrease and flowlines for manufacturing circuit boards are reduced from 24 to 8 meters in length.

Applying metal to one circuit board without using palladium costs 50 kopecks less. Hundreds of millions of circuit boards are manufactured and utilized in the country each year. According to the most cautious calculations, the economic effect from applying metal without palladium will amount to more than 50 million rubles a year.

As of today the most crucial problem is applying metal to the opening because copper can be glued to the surface of the plate or applied by dusting, but for applying metal to the openings there was no other method than the chemical application of copper that was being used. Therefore we selected this as the primary task out of the entire range. In the future, of course, it will be necessary to develop automated methods of applying the entire electrical circuit to the plate since traditional technologies for obtaining current paths lead to large losses of copper. After the application of copper the plate is etched, but the creation of systems for regeneration of copper from the etching solutions is something that only the large enterprises can do. Usually the etching solutions are shipped in, accumulated, and discharged into the sewage system, which, in addition to losses of secondary resources, causes a great deal of harm to the environment.

A great deal of assistance in bringing the process of application of metal without palladium to the point of introduction was rendered to us by workers of enterprises and organizations of Leningrad, Gorkiy, Minsk and Kiev. But the process was realized most completely at the Krasnayazarya in Leningrad, which produces telephone switchboards.

[Question] You mention Novosibirsk. Is this by accident? For in Novosibirsk there are also many enterprises that are working with circuit boards and there is the

Scientific Research Institute of Unit Electric Drives (NIIKE), which is developing technology for automation of circuit board assembly. How have they reacted to the new technology?

[O. I. Lomovskiy] Initially, very well. We worked with Novosibirsk enterprises, and the development was brought to the point of introduction at one of the plants, which is documented. But there followed a cry from the branch scientific research institute, "Do not dare," after which even the document disappeared. To be sure, this command was also received by the Leningrad Krasnaya-zarya, but they did not react to it there.

[V. V. Boldyrev] This concerns the NIIKE, like any self-respecting scientific organization, the NIIKE prefers to introduce only its own work. We found real support only in organizations of the Siberian branch of the Academy of Sciences. We are developing series technology at the experimental base of the Institute of Nuclear Physics. Some of the manufactured plates go for the needs of this institute and we give others to interested organizations. Our technology is also being introduced at the experimental plant of the Siberian Branch of the USSR Academy of Sciences, where they have created a specialized section. Were it not for this support we would not be able to demonstrate our development to Western trade partners. A number of firms are extremely interested in licenses for it and are prepared to purchase both the technology and the equipment developed for it by the institute. And if it were not for the attention from foreign firms, our departments would not even have displayed interest in the innovation.

#### **Permission for Production—The Monopoly of Branch Scientific Research Institutes**

[V. V. Boldyrev] When I think about the vicissitudes of the fates of developments proposed by academic institutes I become very sad. Quite recently EKO wrote about the ordeal of the new method of flotation of tin ore.<sup>2</sup> With one or two modifications, the history of interrelations with branch science is being repeated in this case as well. In the end, the NIIKE is a particular example. The institute could either have become our partner or not. It chose the latter. But if branch scientific research institutes which are the head ones regarding one technical problem or another and are obliged to support, develop, and disseminate all that is best in the branches, take this position, this is a direct contradiction of the utilization of the utilization of the scientific potential existing in the country. One can understand what motivates them: if the branch institute recognizes what we have done, how will it look? It is the head institute for the problem. "The most, most..." and somewhere they are developing something that will essentially influence the branch entrusted to them. So would it not be better not to recognize the development and, in the extreme case, even purchase the

technology abroad? So the institute assumes the pose of a watchman who decides whether the results of research he has not received himself will make their way into the branch or not.

The monopolistic position of the head institutes for various problems leads to dullness of the brain. These scientific research institutes become so lacking in curiosity and so indifferent of knowledge that they behave like spoonfed children. When you put the spoon in the child's mouth, he kicks and screams and spits the food out.

In a word, with respect to the innovations of other organizations, branch scientific research institutes, and frequently branch managers along with them, are the direct antipodes of foreign firms. There they have industrial espionage, here we have a complete lack of interest.

At the June conference on the acceleration of scientific and technical progress (1985), the 27th CPSU Congress, and the June (1986) Plenum of the CPSU Central Committee the activity of branch scientific research institutes was subjected to serious criticism. Measures are being taken to improve their work and scientific organizations that are not producing any benefit are being eliminated. But it seems to me that the restructuring is proceeding slowly.

[Question] How do you envision the interaction between academic and branch scientific research institutes? In what form, in your opinion, should academic institutes turn over their developments to the branches. Interbranch scientific and technical complexes are now being created under the aegis of academic institutes. To what extent will these organizational structures make it possible to change the situation?

[V. V. Boldyrev] The poet Eduard Asadov said that at first encounter it is possible to stand on one's tiptoes. But you cannot do that all your life! And in some places in the branches this is exactly what they expect of the academic institutes. The branch institutes themselves try to assume the position of coordinators and controllers who inspect anyone they want to and make demands on anyone they want to, thus expending a minimum of effort to do what they should be doing themselves. The situation is even worse when the branch institute is the head institute for the problem. Incidentally, I generally doubt the expediency of the existence of head branch institutes. Perhaps this is convenient from a formal-bureaucratic standpoint. But from the standpoint of work everything is just the opposite.

The lack of competition and the excessive permissiveness that follows from the exclusive position of the head institute in the branch, and sometimes, which is even worse, the head institute for interbranch problems, the position of a supreme judge without rules or a code of laws, might be advantageous to someone, say, in the system of scientific and technical administration of the

ministry or the workers of the head institutes themselves, but it is hardly advantageous to the branch or to the national economy as a whole. This is especially unfair in cases when we are speaking about what is actually new, about research. Our greatest opponent in the application of mechanical activation as a method of obtaining a new kind of phosphorus fertilizers without acid until recently was the head institute of the Ministry of Mineral Fertilizer Production—NIUIF, and for the technology for manufacturing circuit boards it was also the head institute.

And their justifications are all the same; I could even predict what the head institute would say in response to my statement. The answer would be approximately as follows: on the basis of the small-scale research of an academic institute it is difficult to draw a particular conclusion. You go ahead and conduct a large series of experiments, and not in a laboratory but at the industrial level, and you provide the raw material base, and you create a fully automated system, and then we will see. And we will monitor every stage of your work. We can do this because we are the head institute and, moreover, we must do this—our position makes it incumbent on us.

The situation becomes impossible. On the one hand, where can an academic institute get the equipment, space and people for industrial testing and the drawing up of technical and economic justification, especially with a multibranch sphere of application? On the other hand, there is nowhere else to go; there is only one branch institute and no others. As our experience shows, it does no good to complain about it to the ministry, and sometimes this is even dangerous for our work. And so workers of academic institutes throw up their hands in despair.

The appearance of interbranch coordination councils for especially important individual problems and interbranch scientific and technical complexes initially inspired hope that things would go better, but now everything that was standing in their way has become part of the past. But, if one is to judge from our experience, little has changed for the better. It is rather the opposite.

Here are a couple of examples. The main coordinator for the technology of circuit boards is now that same organization with which we struggled unsuccessfully for a number of years to keep the technology we had proposed alive. So honestly speaking I have lost any hope of changes for the better.

Here is another example. The MNTK "MEKhaNOBR" was organized. So far nobody knows how our institute and other institutes of the Siberian branch became a part of this organization. But, unfortunately, we already have a negative result. The Leningrad MEKhaNOBR Institute, which is now the head one in the MNTK, thinks that there is no need to make a special fuss about the authors' rights of those whom it has begun to coordinate.

Even on the scale of our Novosibirsk Oblast one can find an analogous example. Several organizations in the oblast are engaged in solving problems of replacing Portland cement, which is in short supply, with coal ash from the Kansk-Achinsk Basin. Since ash here is used not as a filler (as it usually is) but as the basis of a binding agent, the matter has required research at all levels, beginning with our laboratory research on the physical and chemical foundations for optimization of charges and ending with research of the construction institute and the branch institute of SibZNIIEP for obtaining prepared items for the construction industry. Having in mind both the great capabilities of the experimental base of SibZNIIEP and the fact that it deals with the final link in the technology—the output of prepared products—the Coordination Council for Contributing to Construction under the Novosibirsk CPSU Obkom made the SibZNIIEP the head institute. As soon as this took place, in all the statements and programs on radio and television, everything that several organizations had been doing together, the SibZNIIEP began to take full credit for.

So there were additional negative emotions, but no progress was made in the matter. And this is understandable since the change that had to be passed through from the idea of the scientific result to the introduction, which is excessively long in our country in any event, because of the existence of a multitude of instances for coordination and approval, became longer by one more link. This means further increasing the probability that the innovation will get stuck somewhere, that the deadlines for competition with foreign firms will be missed, or that the matter will get bogged down altogether.

It seems to me that it is necessary to have competition among several organizations that are solving the same problem. Then until the problem is solved none of the competing organizations would hope for exclusive rights granted from above. A monopoly, it seems to me, generally contradicts the spirit of the development of science where an honest struggle of opinions is the most important thing.

We have positive experience in our country in the creation of aviation equipment where the competition of several design bureaus led to impressive results in which we always take pride when we recall the Great Patriotic War. And here is another example, also from the history of our country, when the monopolistic situation that was artificially created for one person, Academician T. D. Lysenko, led to the backwardness of agricultural science which we are continuing to experience even today.

Now the judges for determining the value of innovations suggested by anyone, including workers of academic institutions, are the head branch institutes or various functionaries of the ministries who, as our experience shows, have only an approximate knowledge of the situation in production. The best judges would be those who are working in production. But they do not have the opportunity to experiment because they have to fulfill



the plan. This means that it is necessary to return to the chain "academic institute—branch institute—production." And this chain will work only when the branch institutes not only have the rights, but also bear the responsibilities for the fate of innovations proposed by anyone and not just themselves. So far the responsibility exists only in a case where enthusiasts decide to test something and do not receive a positive result.

And, finally, we cannot create an NTK for each occasion! Our science and industry are too multifaceted. Therefore, within the framework of the existing educational forms it is necessary to reach a point where each link of the chain "scientific idea—introduction" simply handles its own work efficiently. If the academic institute is concentrating completely on the problem of introduction, it will not have time to work on prospective rates.

[O. I. Lomovskiy] Using the concrete example of the realization of our technology, I should like to show typical problems that arise with introduction. The first: the technological development—the dissemination of the technology to all kinds of circuit boards, from the simplest single-layer ones to the most complex multi-layer ones. The branch developer institutes, which should have handled this, first asked us to go to the plants and submit reports concerning work with the enterprises. We fulfilled this request. We went there, we introduced it, we received results, and we wrote reports. The Ministry of the Communications Equipment Industry which up until 1981 was responsible for the problem added to its branch standard for the technology for producing circuit boards an appendix in the form of an enterprise standard. And everyone who applied our technology was supposed to refer to this change and ask permission from the given ministry.

Then another department became the head one for circuit boards. The situation became even more complicated. We were faced with a new problem—organizing the assimilation of the technology at enterprises of this branch and creating normative-technical documentation for it which would satisfy the branch institute. There was nothing left to do but take on this work.

The third problem involves the equipment for the new technology. The branch with its large planning and design organizations and with enterprise specializing in the output of technological equipment does not want to take responsibilities for technical support for new technologies. And the academic institute is forced to handle this.

Somebody from the enterprises with enthusiasts of new technology (future consumers) took on the duty of manufacturing with equipment, that it was not a responsible branch or its head scientific research institute. And what was left for it? The functions of control and coordination.

If the first three problems were resolved with the help of enterprises that were interested but not responsible for anything—"if it turns out—good, if it does not—that is your problem," the problem of obtaining hypophosphite had to be solved with enterprises that were not interested and not responsible for anything. And if instead of palladium they were to think of something else that was more expensive—that was all right! And so the problems in the literal sense was a nickel and dime affair: a kilogram of calcium hypophosphate costs 2 rubles (palladium—thousands of times more). The Ministry of Mineral Fertilizers does not promise to assimilate its production before the end of the five-year plan or to begin production before 1990. Yet the Kazakh Scientific Research and Production Institute of the Phosphorus Industry in Chimkent even today could produce several tons of this product a year in its experimental production, at least for the needs of science. But this will be inexpensive for it and therefore not attractive.

At some point, despairing of finding a solution, we were ready to "stand on our tiptoes" and assimilate and develop the production of hypophosphate. But having considered the situation dispassionately, we understood that this would not be the solution to the problem. In any event we would never be able to produce the amount that would be required when the new technology for applying metal to circuit boards was fully assimilated. It was necessary to make industry do its job.

[V. V. Boldyrev] Nonetheless there was certain justification for an optimistic view of the future. Our subjects were included in several scientific and technical programs of the ministry for the next five-year plan. But that is as far as it went. This is why we finally had to take responsibility for developing the technology for manufacturing the circuit boards and equipment and creating the normative and technical documentation. The role of the branch institute was purely that of a watchman—to give its permission or not, to obtain information, and to gather information about the technology and turn it over to others.

In general, when it pertains to interbranch developments the departmental separation is a very big impediment. Obtaining cement made of ashes from the TETs was one of the most effective of our developments. But the ash dumps are owned by the Ministry of Power and Electrification. As one can easily understand, it has no need to develop new technology for obtaining cement. Therefore the most elementary manipulation in order to transfer the ash to construction materials enterprises causes resistance from it.

Or here is the fate of another development. We suggested additions to the technology for obtaining aluminum so that byproducts could be extracted. But the Ministry of Nonferrous Metallurgy answered us: "Why should we do that? Go to the Ministry of the Chemical Industry or the Ministry of the Construction Materials Industry."

In my opinion, it is necessary to change the principles of planning comprehensive scientific and technical developments that go beyond the framework of a single branch. Somebody should bear the responsibility for them at the national economic level. Perhaps even the State Committee for Science and Technology. Now we do not have complete centralization, but we do not have decentralization either when the enterprises themselves are the masters of the situation. Everything is resolved by the department. And they constitute a large barrier to the new.

### The Less the Innovation, the Greater the Chances

[V. V. Boldyrev] No responsibility for the fate of innovations is borne by the State Committee for Inventions and Discoveries or its All-Union Scientific Research Institute of State Patent Expertise (VNIIGPE), on whom the life or death of an innovation suggested in the form of an application for invention frequently depends. This is not to mention the fact that the consideration of the applications and the decisions regarding them are delayed and the decisions of the expert are unpredictable. I cannot say that I am an unsuccessful inventor and therefore am prejudiced. No, I have more than 60 author's certificates and several patents. Moreover, as the director of the institute I have the opportunity and must trace the destiny of the applications of my colleagues in the institute. This is the interesting conclusion at which I arrived after many years of familiarity with the VNIIGPE. It is easiest to obtain an author's certificate for work that contains a minimal percentage of innovation and consequently, has extremely modest economic significance. That if the application includes a principally new solution, which we value especially highly in our institute, we can expect an objection from the expert or even a rejection. Long and tedious correspondence then begins. It is clear that the expert did not recognize the essence, is afraid to say "yes," and it is easier to say "no." Here begin the ambitions of the expert who is striving to show you here insignificance and his superiority.

An example of this could be our first application for the application of metal without palladium, to which the expert of the division of chemistry of the VNIIGPE immediately issued a conclusion that there was no innovation. The consideration in the control council did not help either. Since before this in one of our responses to the objections of the expert we indiscreetly expressed doubt about his competence with respect to this question (of course, this was our mistake and now we would not have made it!), the matter shifted into the area of emotions and ambitions, and the path to obtaining an author's certificate for a truly new method of applying metal was hopelessly closed off to us. It was necessary to become slightly cunning: to patent not the method, but only the solution for the electrochemical application of copper, that is, to give the appearance that we did not have a new principle, but simply a change in the formula. In this form the new text of the application ended up

with a new expert in a different division and we immediately received three author's certificates for this. Then, and fairly quickly, we received patents for both our solutions and our method from the United States, France, the FRG, Sweden, and Japan. Negotiations are being conducted with foreign firms regarding selling licenses to them.

Recently we tried to obtain author's certificates for one of the variants of our method. We sent an application to the VNIIGPE and received a rejection signed by that same expert. The reason was the same—the lack of innovation, and that the method of applying metal we proposed is a variant of the well-known method of application of metal without palladium (our method!).

Completing this story, I wish to ask: who would be responsible if at the beginning of our thorny path of inventors we had not found a side road? Who would bear responsibility for the fact that this technology or, rather, the license for it, would have to be purchased from abroad? After all, it is easy to calculate the losses: the volume in terms of money for the production of circuit boards is approximately the same as for catalyzers in the chemical industry. Most likely the authors would be responsible because of their insufficiently active position in life. And I am sure that the expert who "cut off" our application, would have no punishment at all. One asks why? Since there is no penalty for an unjustified refusal, it is easier to refuse than to issue the certificate.

This is also one of the difficulties of introduction. But in general it seems to me that the word "introduction" means more than "pushing" and "shoving" the achievements of science into industry. In the West they are not even above stealing an innovation in order to use it. Unlike them, here there is no need to steal. We ourselves bring it, and even ask and beg them to take it. But even so they do not always take it.

### Solving the Problem at All Levels at Once

[Question] But still, apparently, it is not simply a matter of not enough responsibility of the branch scientific research institutes for new technical equipment. There are other causes of this attitude toward others' ideas. After all, it is still more advantageous to introduce one's own development than someone else's. There is also the prestige—author's certificates and remunerations for inventions and bonuses for realization....

[O. I. Lomovskiy] There is no doubt that the economic mechanism for stimulating innovations is imperfect. Nonetheless I should like to note once again that the branch institute has certain obligations to the grant in the national economy: first and foremost this is raising the technical level of technologies and products to the world level. Carrying out this task requires that they realize all scientific achievements in the country and even in the world if they are known.

Everyone recognizes the achievements of Soviet photographic science. Soviet research is cited and used extensively abroad. But in production practice we lag below the world level. Where are the Soviet Polaroids and where is our high-quality color photography? The reason is all the same—domestic scientific achievements that have been recognized throughout the world have not been introduced on a large scale here.

If one is to speak about the economic mechanism, in my opinion, the problem must be solved at several levels. The first level is to create an economic mechanism that contributes to the output of what is necessary to the state and not what is easiest to produce. It seems to me that the measures that have been taken to expand the independence of the enterprises and associations and change them over to self-support and the incentives and sanctions for new and outdated technical equipment have already begun to take effect. We are experiencing this. It is much easier to establish contacts with enterprises. They are interested in promising innovations although they also have their own difficulties. For the plans for new technical equipment are approved in the branches. Orders for the necessary equipment and materials cannot be satisfied without the ministries and departments either. Nor can they be bypassed when producing normative and technical documentation. Therefore, of course, it is necessary to adjust the economic mechanism for stimulating innovations at the level of the branches. Now in the branch scientific research institutes incentives for workers are based partially on a system of expert evaluations for the fulfillment of their research projects. It is more advantageous to carry out a local development, to obtain a partial solution, and "close the subject" more rapidly in order to obtain a bonus without too much effort. We need changes in the incentive system. The scientific research institutes must be encouraged for the fulfillment of major tasks of the branch and not for methods of solving particular problems. Then the branch scientific institutions will be interested in the flow of new ideas.

[V. V. Boldyrev] It is also necessary to change the status of the branch institutes. As long as there is a monopoly of state institutes on scientific and technical problems of various productions, they will not get rid of the psychology of watchmen in science. It is necessary to introduce competitions of ideas under the aegis of the USSR Council of Ministers and the Gosplan and to strengthen the role of the State Committee for Science and Technology in the management of interbranch scientific and technical developments. The country is interested in their large-scale introduction. Why should they go abroad in the form of licenses? Have we really not learned anything from the story of the method of continuous smelting of steel, wire drawing, and other domestic technologies which were embraced in the rest of the world before they were at home?

The restructuring in the area of control of scientific and technical progress is a process with many aspects, from

the change in the psychology to economic regulation. It must be carried out in all directions.

#### Footnotes

1. G. I. Marchuk, "Molodym o nauke" [To Young People About Science], Moscow, Molodaya gvaidiya, 1980, p 49.

2. I. S. Kotlyarevskiy, "Science and the Mechanism for Introduction," EKO, No 11, 1986.

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**Enterprise Management Experience Disseminated**  
*1820006c Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 9, Sep 87pp 53-62*

[Article by V. D. Rechin: "Advanced Experience in Management of Enterprise: How It Is Disseminated"]

[Text] The regular meeting of the club of directors of industrial enterprises was held in Tolyatti at the base of the AvtoVAZ Production Association. Like preceding meetings, it was intended to take 3 days. During this time they discussed about 10 different issues. Among them were: the first results of the new economics experiment at VAZ (the association's director for economics and planning, A. I. Yasinskiy, spoke); ways of improving the system for management of industry in the USSR; what the passenger vehicle of the year 2000 should be (the VAZ head designer, G. K. Mirzoyev, spoke), and others. All participants visited twice the VAZ productions, shops and laboratories that interested them.

The central issue that was discussed at the club this time was how advanced experience in management of an industrial enterprise is disseminated in our country. It is no accident that it was VAZ where the discussion of the subject took place: the association's collective is widely known as a generator of progressive ideas in management. Among those assembled were many followers of the VAZ experience, people who had introduced one or another element of it at their own enterprises. In keeping with the club's traditions the basic questions were prepared with the help of questionnaires. In the material published below we have used mainly a survey of the questionnaires that were sent to the club's organizing committee.

Responses to the questionnaire came from 62 directors of enterprises of various branches: machine building, electrical equipment, instrument building, enterprises of ferrous and nonferrous metallurgy, the chemical and coal industry, light and the food industry, and so forth, located in the European part of the USSR, the Urals, Siberia, and other union republics.

In terms of their length of service in their position as director, the respondents were distributed as follows: up to 10 years—48 percent (including up to 5 years—30 percent), 11-20 years—30 percent, and more than 20 years—20 percent (including two directors with more than 30 years. Their average age was 55, and four were younger than 40 while two were older than 65.

**Question One. Which Requirements Should the System for Enterprise Management Meet and on What Basic Factors Should Changes Depend?**

In the opinion of the respondents, it should be:

centralized and comprehensive, embracing a unified ideology for all kinds of activity and all subdivisions of the enterprise;

flexible and rapidly and relatively easily restructurable, above all in keeping with the requirements of technical progress;

it should take into account the specific features of the given enterprise, including the given manager, and in this sense it is always individual;

it should be constantly developing and changing under the influence of external and internal factors.

Almost all of them note the importance of feedback and the need to create special subsystems for this. It is emphasized that the system of management (SU) should provide for stable fulfillment of the state plan and operate rapidly—mainly on the basis of automation. Among the other progressive features of the system are included simplicity, accounting for the human factor, constant assimilation of the experience in improving management, the provision of reliable information, and so forth.

Among the external factors that make it necessary to restructure the SU, the majority (about 70 percent) put in first place a change in the economic mechanism and a changeover to the conditions of the economic experiments. For certain of them—mainly enterprises of instrument and machine building, and also light and the food industry—the main thing is an essential change in the demands of the consumers. At one enterprise the restructuring of the management system has the main goal of increasing the effectiveness of communications with the higher agencies.

Of the internal factors, first place was given (by about 70 percent of the respondents) to social requirements and the impossibility of managing the collective by previous methods. Reconstruction of the enterprise, the change in technology, and so forth have significantly less influence on the decision concerning the introduction of the new SU. Certain managers think that up until recently not enough was being done for an essential improvement of

management systems. The main factor was the personal qualities of the director: the measure of his readiness for carrying out innovations, his persistence, and so forth.

There is the viewpoint that any system must be revised every 5-7 years in all of its basic constituents, including the organization of production and labor, the management structure, the incentive system, and so forth. This is brought about primarily by the constant qualitative changes in the collective or the need to resolve contradictions and the fact that management is lagging behind the level of development of technical equipment.

In this connection, V. S. Solovyeva, general director of the Tiraspol Sewing Association, said when speaking at the club:

"The process of various kinds of innovations, including in management, is necessary to any collective. If no progressive changes take place over a certain amount of time, the collective becomes apathetic. Hence the importance of searching for the new, both through one's own forces and with the help of various sources of information. We have introduced the following rule: everyone who comes to us in order to borrow something must write down what they liked here, what at their enterprise is better than ours, and what advice they can give us. From time to time we conduct competitions of ideas about innovations in the management of our association and its individual subdivisions. It is necessary for the agencies of authority that are over us not to slow up innovations at enterprises as has frequently been the case up to this point, but contribute to them and stimulate them. This is one of their most important functions."

**Question Two. What Impedes the Dissemination of Advanced Experience?**

According to the estimate of the directors themselves, half of the enterprises they manage required serious management restructuring under the 11th Five-Year Plan and half did not. In places where this was required, judging from the responses, it was done. Moreover, two-thirds of the directors took advantage of the experience of other enterprises to one degree or another and one-third relied only on their own knowledge. And this was at a time when almost half of the directors who had carried out a restructuring of management had visited other enterprises in 1981-1985 especially in order to study advanced management experience.

The main difficulties in the utilization of another's management experience were arranged according to their significance by the respondents to the questionnaire in the following order:

1. The specific features of the branch (for transferring experience from other branches).
2. The shortage and poor quality of information about experience in the area of management.

3. It is difficult to figure out another's experience and understand the mechanisms of the functioning of management systems.
4. The director himself does not have enough time to study another's experience carefully enough for himself.
5. The lack of support (and sometimes opposition) from higher agencies.
6. Resistance from the collective.

For the majority of directors the last factor was not very significant, although 12 of those who responded placed it in second or third place. Certain directors consider the specific features of the branch to be the least significant factor impeding the transfer of outside experience. Certain of them named as the major factor the lack of serious incentives to borrow experience: the main thing today is to be average and to make ends meet. As one can see, there is no unanimity in the evaluations and conclusions of the directors of industrial enterprises.

Among those who put the shortage of information in first place was the general director of the Aktyubrentgen Association, I. P. Shkurenko. He thinks (and many support him in this) that it is necessary to have a special publication devoted to a description of advanced management experience. "Even now we receive a large amount, even a very large amount of various kinds of information regarding this," he said, "but it almost always has three shortcomings: this information is unreliable, frequently significantly so (when you go to the enterprise whose experience is being publicized you are convinced that the reality is significantly different from the way it is depicted), it is difficult to understand (that is, it is presented in bureaucratic style), and it is not analytical or instructive (it is impossible to borrow any experience from the description—it is necessary to go to the place. The proposed publication should not only be strictly specialized—it should provide information about advanced experience in management—but it should also avoid the aforementioned shortcomings in the presentation of information."

Taking exception to what I. P. Shkurenko said, Candidate of Technical Sciences S. I. Kulchitskiy indicated that the main reason for the poor reception of advanced experience in management does not lie in shortcomings or the quality of information about it: "We have learned so much that is new and useful at our meetings of the directors' club! But how much do we adopt? The main thing lies in the creation of a situation which will make it necessary to improve management and make it possible for us to engage in it. Previously the overall economic atmosphere in the country did not contribute to searching for the new, but now this is changing. One can confidently predict the sharp increase in interest in management innovations."

"I do not think that that is the main thing," said the director of the Kherson Pulp and Paper Plant, S. S. Vaykhanskiy. "For a long time they have been working on developing the standard of the enterprise (STP) concerning the policy for introducing advanced experience. It has intensified both the search and the realization of various innovations in the area of management of an enterprise and its subdivisions. The main thing is the policy and the atmosphere in the collective."

"And it is necessary for the leading enterprises to have advantages over others," added Candidate of Technical Sciences B. V. Prilepskiy. "Frequently managers and all workers of the enterprise are only morally interested in being advanced, and materially they are among the least advanced (when planning from the level achieved)."

The sources of information about experience in managing enterprise ranged in the following order according to their actual significance for the directors:

- 1, 2. Publications in the press and communication with other directors—equal in importance.
- 3, 4. Impressions of subordinates and recommendations of higher agencies—also equal in importance but approximately 1.5 times less significant than the first two sources.
- 5, 6. The system for increasing qualifications and works by scientific associates (at conferences, lectures and so forth)—equal in importance and approximately half as significant as the first two sources.

The majority of directors do not work hard enough at searching for advanced experience in management. They visit an average of no more than one enterprise a year for this purpose and it is almost exclusively in their own branch or in their own oblast (republic). There are those who have not visited a single enterprise during the entire 11th Five-Year Plan, many visited one or two enterprises, and only three had visited eight or more.

Only a couple of directors noted that after visiting other enterprises they were unable to adopt anything to improve management. More than 80 percent of those who responded to the question brought to their own enterprises something that they had learned from the others. This pertains mainly to certification of work places and brigade organization of labor, the changeover to the conditions of the economic experiment, and also program-target management, improvement of product quality, operational production planning, automated control systems for the technical process, personnel training, and solving social problems (particularly production aesthetics, the organization of public catering, and management of socialist competition). Only one director indicated that he had utilized and integrated systems for management of the enterprise that had been

formed at another plant. In several of the questionnaires EKO was named as the main source of information about advanced experience of enterprises.

At half of the enterprises whose directors filled out the questionnaire, they had introduced the VAZ experience, and the results were positive (at some of them, excellent). They are being manifested to this very day. In one case the results were poor and in another the possibilities of innovations had already been exhausted. The application of VAZ experience was reflected most appreciably in increasing labor productivity, and at certain enterprises, also in the acceleration of the assimilation of planned capacities and improvement of product quality. But nobody indicated that they had introduced the VAZ system as a whole: only individual elements of it, mainly brigade organization of labor and centralization of functional services (mainly repair).

Among the reasons why the VAZ experience was disseminated on a limited scale two stood out: the specific features of production (for example, individual and small-series production instead of flowline production at the VAZ) and "inertia of habits and thinking." Several directors emphasized that the VAZ system is effective with a high degree of rhythm but it will not stand up with shortages in the deliveries of material or poor quality of equipment. It was also noted that there is a lack of support from higher agencies and a "disintegrating effect of surrounding enterprises that are having no problems even though they are not adopting any experience."

As concerns the experience in program-target management of an enterprise, we do not know of a single case where those who have assimilated it have failed. Among the reasons for its limited dissemination, first place is held by the fact that information is poorly arranged (with respect to the enterprises) and there are no practical recommendations that are suitable for utilization. Also of importance is the fact that target-program management is not included in the modern (approved) system of management and planning. It is suggested that it be made mandatory in the activity of the ministry and then the subordinate enterprises will be forced to apply it. In several questionnaires it was written that it is necessary to be courageous in order to introduce it. There are references to the fact that this experience is not suitable for all enterprises because of their specific features.

### **Question Three. What Useful Experience in Enterprise Management Should Become Widespread?**

In addition to the well-known experience that has been approved by decisions of the CPSU Central Committee and the USSR Council of Ministers of the VAZ, the Kaluga Turbine Plant and the Dnepropetrovsk Combine Plant, participants in the questionnaire named 20 other enterprises whose experience should be studied and extensively disseminated. These include KamAZ, Svetlana, LOMO, BEF, the Karaganda Metallurgical Combine, and others. Almost all the enterprises managed by

people who responded to the questionnaire have experience worthy of dissemination (only two directors wrote that they have no such experience).

Those that were visited especially frequently in order to study management experience were the Kislodromash NPO, the Nagornaya Mine, the Tsentrmebel PO, the Kishinev Artificial Leather Combine, the Kuybyshevskabel PO, the Kriogenmash NPO, the Voronezh Machine-Building Plant imeni V. I. Lenin, the Omskshina PO, Zapsib, the Bratsk Heating Equipment Plant, the Krasnoyarskaya GES, the Rostselmash PO, the Kherson Pulp and Paper Plant, the Experimental Plant of the USSR Academy of Sciences, and others.

The aforementioned enterprises have the most diverse experience: from a comprehensive SU (Kislodromash), a comprehensive system for work without laggards (the heating equipment plant), target-program management (Tsentrmebel)—to individual constituent parts of the SU (control of production rhythm, comprehensive social development of the collective, the normative method for accounting for expenditure of materials, the Sigma Automated Control System, information supply for managers, organization of competition, the creation of a reserve of management personnel, and so forth). The directors are proudest of all of their successes in the social area, especially in arranging daily life, including medical service, opportunities to engage in sports, and so forth. Since it is mainly enterprises that are operating well that are represented in the directors' club, one can draw the conclusion that one of the most important factors in good work (if not the most important) is increased (as compared to other enterprises) attention to the needs of the workers employed at them.

It must be added that at the present time an enterprise with advanced management experience has no positive incentives (there are negative ones) to disseminate its experience. Representatives of the enterprise who have come for experience not only do not pay anything for it, but do not even let the enterprises know whether it has been used or not. Therefore almost none of the directors was able to answer the question of how their experience is being disseminated.

The lack of payment for management inventions in our country not only does not contribute but even causes harm to their dissemination since this is equated with their insignificance. One would think that payment, and considerable payment, for the transfer of advanced management experience would raise the degree of its introduction. At the same time, it would make it necessary to take more seriously and approach scientifically the very concept of "advanced management experience."

This was discussed by the director of the Ulan-Ude Fine Fabric Combine, K. P. Altzman: "I have been working as director for 35 years. During this time, on instructions from above, I have conducted many reorganizations in the management of production. Frequently they have

had a negative influence on the activity of the enterprise and in order for them to be advanced it was necessary to suppress certain 'innovations.' Therefore the first claim to be made on management science is that it give a sufficiently clear definition of what experience in management of an enterprise must be in order to be considered advanced, and when and on what scale (that is, the requirements and conditions should be indicated) it can be expediently disseminated.

**Question Four. What Are the Crucial Problems of Management of the Enterprise for Which Production Workers Are Expecting Solutions From Science?**

About 40 subjects and problems were named. The most important and most frequently repeated were the following:

1. Evaluation of the effectiveness of the work of the enterprise (according to which criteria in addition to fulfillment of the plan can one objectively judge how the enterprise is operating), and the development of the corresponding system of indicators.
2. A management system, even the very best, must change with time. How and when should this take place?
3. The development of more progressive SU's for the enterprise, particularly simplification of systems (and structures of management); in order that the management signal reach the actual workers more rapidly and with fewer distortions.
4. Program-target management, the technology for its introduction, and information support are especially singled out.
5. Technology for control of scientific and technical progress at the enterprise; and actual technology and not principles and approaches.
6. Variants of organizational structures for enterprises of various branches.
7. Economic problems in creating flexible automated productions.
8. Methods of providing for a high level of rhythm in the operation of enterprises.
9. Control of material and technical support for production.
10. A number of problems of a social nature. The directors are especially bothered by how to increase the effectiveness of the utilization of the human factor, including how to make engineering and technical personnel more active; how to achieve a correspondence between public and private interests; a system of training and retraining personnel; the insurance of interest on the part of managers in achieving final results.
11. Improving the performance of the ASUP.
12. Methods of creating a normative base within the enterprise.

"Moreover," the chief of the Bashneftekhimzavody Association, M. M. Kukovitskiy, insisted during the discussion, "the recommendations should be brought to the stage of developments. Information on this subject coming in from branch scientific research institutes contains mainly material of an advertising type or ideas that are poorly developed and, as a rule, have never been tested. And even if these ideas seem correct, it is very difficult and risky to realize them."

Summing up the results of the discussion of the problem of disseminating advanced experience in management of the enterprise at the next meeting of the directors' club in Abovyan in the Armenian SSR, the club chairman, editor in chief of EKO, Academician A. G. Aganbegyan, singled out five main points.

Up to this point the experience has been poorly analyzed and generalized. It is difficult to understand the information that is sent: when is the experience effective and what is its specific nature. The numerous information services do not work for a specific addressee.

2. Experience is not submitted well in express information or in the journals: it is not clear, it is not intelligible, and the description does not elicit a desire to follow it or utilize it.

3. There is not the necessary interest in the dissemination of experience; only troubles. For example, everyone is requesting documentation and other materials concerning the work experience of the Sumy Machine-Building Association imeni M. V. Frunze under the conditions of self-financing. But they rely on orders and not on awareness of the situation, and they do not take the capabilities of the enterprise into account.

4. The limitedness of the rights of the enterprises. Many of them must coordinate their actions in their internal life (management structure, incentive system, and so forth) with various higher agencies, which refuse permission more frequently than they give it or else make such changes and additions that afterwards the innovation becomes pointless. Thus the Institute of Economics and Organization of Industrial Production of the Siberian Branch of the USSR Academy of Sciences along with the rayon management suggested conducting a management experiment on several sovkhozes of Altay Kray. The expected effectiveness of the experiment relied upon the positive experience of one of the kolkhozes of the kray that had already been working for 3 years under the conditions proposed in the experiment for the sovkhozes. Through their joint efforts the coordinating organizations had made such significant changes in the conditions that the institute was forced to give up its idea—the experiment was doomed to failure.



5. There are no organizations for promoting advanced experience. If you want to introduce something you can rely only on your own forces. Why? In many countries, including socialist ones, for example, in Hungary, this problem is already being solved. Let us assume that the average annual yield of corn in a cooperative is 45-50 quintals per hectare but you want to obtain 100 quintals as several other cooperatives do. It is clear that a great deal is required to do this. But there is a firm which takes over all concerns for material-technical and technological support for this doubling of productivity. The conditions: for several years half of the additional yield goes to this firm. We need such intermediaries as consulting firms, which are widespread abroad.

If the director feels that the management system at the enterprise is getting bogged down and is not working, whom can he turn to for assistance, even for a diagnosis? Nobody. Management consulting firms could be useful here. And they would also be good promoters of advanced experience.

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### Quality of Complicated Instruments Discussed

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[Article by M. A. Dmitriyeva, candidate of technical sciences (Novosibirsk): "Production of Complicated Instruments: How To Ensure Quality?"]

[Text] State acceptance has revealed many crucial problems. Among them is the fact that various systems of product quality control are unsatisfactory. The comprehensive system for product quality control (KS UKP) was developed under conditions when questions of quality were not as critical as they are now, after the April (1985) Plenum of the CPSU Central Committee and the 27th Party Congress. Therefore many KS UKP's suffer from being academic, formal, and nonobligatory.

Under the new conditions the significance of truly positive experience increases sharply. This is what distinguishes the development and introduction of the system for comprehensive analysis (SKA) as its author, M. A. Dmitriyeva, calls it.

Existing ASUP's suffer from many shortcomings, and one of the most important was caused by the "lack of dependence" of the developers on production. As a result, it is not the most important procedures in management and certainly not the best ones that are automated if one recalls their "spontaneous" origin.

The SKA is constructed totally on the requirements of production and has grown out of them. For a long time (out of necessity) it existed in the manual variant, but this made it possible to examine everything so carefully and understand it so well that when it was subsequently hooked up to a computer it was not automation for the sake of automation, but produced the kind of effect that computer equipment was supposed to produce: tracing the reaction to control influences, diagnosing production and technological processes, linking the remunerations for work to its results and, as a result, controlling product quality in fact and not only in words.

The destiny of the SKA is typical of our time.

Originating under the pressure of extraordinary (and yet still typical) production conditions more than 2 decades ago, the SKA, despite many years of proving its effectiveness, was not disseminated either in industry or in the ministry, nor was it even properly developed at the enterprise. The very existence of the SKA was supported basically through the efforts of M. A. Dmitriyeva. The situation is now changing for the better both at the enterprise and in the country as a whole. This article about the SKA will be a benefit to product quality.

### The Task and the Solution

...The enterprise could not arrange for stable output of a complicated instrument. The physical processes taking place in it during the time of operation were poorly studied, and the technology, which was developed under the conditions of a small institute laboratory, turned out to be unsuitable for industrial production. A large proportion of the norms for the working conditions and the intermediate control parameters were not strictly substantiated. Even with careful observance of all the requirements, the production could not insure itself against excessive amounts of defective work in each stage of the technological chain. The overall amount reached 80-95 percent. The situation was exacerbated by the fact that the more important operations were done by hand—purely human shortcomings were added to the shortcomings of the technological process. Finally, there was on more important circumstance—the long cycle for manufacturing the instrument. Because of this, the final result of the manufacture of each batch became known, at best, only 2-3 months after it was produced.

Under these conditions the fate of the plan depended on the parameters of the instruments during the process of manufacture. If in each link of the technological chain it had been possible to reliably separate the defective instruments from the good ones, it would have been significantly easier to fulfill the planned assignments. Unfortunately, however, it was difficult to do this. Defects in instruments are in the category of so-called "hidden defects," which are manifested either in the final stages of the manufacture of the instruments or during testing, or when they are being used by the consumer. Each time when samples are taken from a



given batch for testing for durability there was no guarantee that even one of them would make it through the next testing "marathon."

In order to rectify the situation we used an entire arsenal of means that are usually applied in such cases. These included the creation of brigades of engineering and technical personnel, daily conferences under the leadership of the head engineer or the director, and "storming" by all participants to eliminate the holdup, the development of all kinds of measures for material incentives, and endless commissions from various levels of authority. But these customary methods produced no result.

Experience showed that the assimilation of this kind of product by traditional methods is a complicated and lengthy matter. It took no less than 3-5 years to raise the OTV (final technological output) of such instruments to the necessary level. There was neither the experience nor the time for this. The technological and production processes were being controlled "blindly." The control impact went to things that had already happened, to the correction of situations and not to the prevention of them. It was not man who controlled the events, but the events that controlled man.

Thus the task consisted in transforming an essentially uncontrollable production into a controllable one.

During the course of solving this problem we developed interconnected methods that as a whole form a system of comprehensive analysis—SKA. The SKA is realized through a specially created Laboratory for Analysis and Control of Technological Processes (LAUTP). The LAUTP provided for control of production on the basis of highly reliable information formed by the SKA. And the amount of the OTV reached an acceptable level in a short period of time and stabilized. When the feedback was turned on, the measures developed on the basis of information of the LAUTP began to have a more expedient and effective result. Thus we provided for a rapid growth of the OTV, whose amount exceeded its initial level by a factor of 3-4.

The effectiveness of the SKA was confirmed with the example of the introduction into production of another, more complicated instrument. In this case it took 3 months, during the course of which the OTV reached the level which could previously be expected only after several years.

The effect achieved as a result of the application of the SKA cannot be calculated precisely. According to the most modest estimates, its lower limit is 70,000 rubles, that is, even in the experimental variant, with an undeveloped system of wages and an indeterminate position in the structure of management of the enterprise, with the manual variant the service produced no less than 1.5 million rubles' worth of economic effect over 20 years.

### Who? When? How? (Information for the SKA)

In order to control production we had to learn to foresee changes and promptly introduce factors that warn of the appearance of negative situations. To this end, statistical analysis of the condition of technological and production processes was introduced into the organization of the production process as a constituent part which makes it possible to reveal the effect of negative factors on the spot.

And this required information that could precisely answer the question, who participated in the manufacture of a specific instrument, when, and how, and what were the actual values of the parameters of this instrument in all stages of its manufacture. If the instrument failed to work in some place or its parameters did not meet the requirements of the technical specifications, it was necessary to know precisely the kind of defect and the cause of it. If during the manufacture or testing of an instrument several various kinds of failure are revealed, it is necessary to know their chronology and single out the defect that was first. In any objective or subjective, random or deliberate circumstances the information must reflect reality precisely.

The linking of each instrument to factors that participated in the formation of its various properties in all technological operations was achieved primarily with the help of a trademark of the individual number of the instrument. The trademark consists of unrepeatable (either in the past or future) combinations of figures that have coded information about the date the instrument began its first technological operation. This method of registering the trademark makes it possible manually or automatically to conduct various kinds of groupings, to provide for swift order in storing data regarding each instrument that has been put into production, and to find information about it rapidly.

During the course of the realization of this idea two information flows were formed.

The first, which is synchronized with the movement of the items through the technological chain, reflect the properties of the instruments and the final result of their manufacture. The second includes the causes of malfunctioning of the instruments in the stage of production, testing and operation by the consumer. Resorting to an analogy, the first flowline of data can be compared to the data of the "daily life" condition of the items, and the second—to the results of pathological-anatomical analysis. It is important to emphasize that the analysis is conducted on a significant number of instruments that have failed in any stage of production (50-70 percent instead of the traditional 2-10 percent). Moreover, all manufactured instruments that have failed inspections of the OTK, in tests, and in operation are completely analyzed.

This kind of situation forced us to concentrate on work related to analysis in one place—the LAUTP (including analysis of production defect and causes of failures in tests and during operation by the consumer and complaints in a way that is different from the traditional one). Thus there appeared the possibility of making the results of the analysis independent of the interests of the subdivisions in charge of the information and suitable for comparing with "daily life" information from the instruments that are analyzed. Moreover, this form of organization of analysis created favorable conditions for technologists and other specialists responsible for the quality of the products that are produced. Having relieved them of routine and painstaking work for revealing defective components and preparing them for analysis, the SKA left for them the diagnosis of the reasons for the failures and the development of measures for eliminating individual kinds of defects and verifying the fulfillment of measures introduced into the production process.

#### **Information Sheet—A Bearer of Information**

Information in the SKA is formed in the following way. At each work place in production there are perforated blank forms called "information sheets" (IL). While the worker is performing his operation on some instrument he fills out an IL for it. The entry is made according to the requirements of the special instructions and the technological process for the given operation.

The entry in the IL consists of two parts. The first is a standard text that is printed typographically and the other pertains to a specific operation. The standard text includes the date of the operation, the number of the workplace, the name of the operation, the surname and table number of the worker performing the operation and making the entry in the IL, and the individual number of the instrument being processed. The other entry in the IL includes the readings from the equipment during the measurement of the parameters of the instrument in a given technological operation. The completed IL's are collected twice a day by workers of the LAUTP from the working places and delivered to the LAUTP for processing.

Applying the trademark to the instrument and the entry of this act in the information sheet is a mandatory procedure for the performer of the first operation. And in general the accuracy of the entry and the obligatoriness of its fulfillment is stimulated by the fact that the results of the processing of the IL are the primary documents whereby wages are calculated for piece-rate workers and bonuses are calculated for everyone who has worked on the manufacture of a given instrument and whose names are indicated in the corresponding IL. If the worker does not make the corresponding entry in the IL or does it carelessly with mistakes in the figures for the number of the instrument, the work he has done will automatically not be counted.

Thus the IL, filled out by the hand of the worker himself, has a dual purpose: it performs the function of an information bearer that is fed into the block for initial processing of the technological information, and it is the only authentic document that has legal force both for the worker and for the administration at all levels of management when resolving various unclear and questionable issues.

#### **Informative Parameters**

The daily collection of information sheets and their accumulation and systematization all create a general mass of reliable initial information on each instrument. This mass of information is used for various kinds of mathematical and statistical procedures. It is used to reveal the cause and effect relationship between factors operating in production during the manufacture of the instruments and the parameters that reflect final properties of the items. Statistical processing makes it possible within the shortest period of time (as compared to the other method) to establish criteria for evaluating the condition of processes and to determine for them their "points of reading" and the scale of the measurement of various amounts through which these conditions are measured. In other words, a subject base is created for revealing what, how, and when to measure and what to control in the process of the functioning of the SKA. The establishment of laws linking the final results of the operation of production with various kinds of factors reveals the totality of so-called "informative parameters." With their help it is possible to evaluate the condition of the controlled processes at each given point in time.

Thus the probability of a reliable prognosis of the expected individual durability of specific instruments is no less than 0.85. But the precision of the prognosis of expected final results of work of individual processes reaches even 0.95. This means that it is possible to promptly obtain reliable data on what we will have at the end of the technological chain. If, for example, for the production under consideration (and it is small-series) when there was no SKA the final result could be obtained no earlier than one or two months after the completion of the manufacture of the batch of instruments, now this information can be available within 5-6 days after it is put into operation, that is, long before the completion of the production process.

Knowledge of the reasons for situations of failure and the dynamics of their development makes it possible to conduct an analysis of the state of affairs on the spot in precisely the place of production, to develop a strategy and tactics for eliminating the failure, to introduce control promptly, and then, specifically, with a high degree of reliability, to evaluate the effectiveness of the measures that have been taken.

### Processing of Information

There are many stages in processing of information. Each kind of processing takes place strictly in keeping with a daily schedule and technical documentation that determines the sequence of the rules for processing the IL's. Let us give a short description of this process.

The daily volume of information coming into the LAUTP is initially sorted according to the number of the technological operation written in the IL. Then the IL's are sorted according to the month of startup of the instrument in its first operation, and then in the order of the growth of the individual number within each month. After conducting this kind of simple manipulation, the sorted IL's are sent for the next level of processing. There the data of the daily volume of sorted IL's are entered into the input information documents:

the summary of the condition of production during past days (SSP);

the sheet for the batch (LP);

the card of parameters;

the summary of defects during the given month of startup.

The SSP reflects such indicators as the number of instruments included in the "input" of each production section; a numerical list of all defective instruments discovered after they passed through certain technological operations and the kinds of defects; the amount of technological yield from the work of production sections; the distribution of defects according to kinds; the amounts of OTV for each of the preceding 12 months of operation of the shop. All the summary indicators in the SSP are given in units and percentages with respect to the quantity of startup both for preceding days of operation of the production sections and since the beginning of the current month. In this form the SSP makes it possible for the managers to see the entire picture of the condition of production, the prospects for the fulfillment of the monthly plan, the availability of reserves, and the beginning of the formation of bottlenecks. The daily receipt of the SSP makes it possible to hold production conferences in a business situation and to cut off "at the root" fruitless arguments regarding one or another evaluation of report data. The subject of discussion is the causes that actually impede obtaining the planned result.

The determination of the average daily values of informative parameters that characterize the overall quality of a batch of instruments that have been put into production during the day is the next stage in the processing of information. The given informative parameters for each instrument registered in the IL entered by an LAUTP worker into a special document—a batch sheet (LP). The LP is a table of instruments that have been started up for the first technical operation

during a 24-hour period with their numbers in ascending order. During the process of the movement of the instrument along the technological chain information about its parameters, synchronically with the movement of the instrument, is registered in the IL and then transferred from the IL onto the appropriate line and column of the LP. Thus gradually, over a certain period of time, all the necessary information is accumulated in the LP both for each instrument of a given day of startup and for the entire batch for that day. After all the information is entered into the LP it is transformed into a document that performs various functions: a universal reference document that provides for speed and accuracy of determining the location of any instrument at a given moment in time and its property; a source for comparing various excerpts of statistical data joined together by some indicator or group of indicators; a source of average daily values of informative parameters and amounts of the OTV of the batch of instruments for a given day of startup that characterize the level of its quality and average statistical properties. Thus the LP is the means for coordinating the amount of the OTV with the corresponding average statistical values of informative parameters and factors that affect the manufacture of the batch of instruments.

The coordination of indicators that reflect various aspects of the condition of complex processes with the amount of startup is a means of bringing average statistical values of parameters in line with the unified scale of measurement (daily, monthly, annual) of various selections that are compared with one another. Because of the unity of the scale of measurement it is possible to construct time charts of average daily, average monthly, and average annual values of informative parameters that objectively reflect all changes taking place in the technological process. The availability of this kind of chart makes it possible literally in a single glance to see which deviations in values are ordinary fluctuations and which ones are not. This view provides the analyst with a rapid establishment of the moment of the formation of the tendency for the appearance of negative phenomena and enables him to separate what is random from what is predictable. Having determined that a phenomenon is not random but a manifestation of some factors that are arising, the analyst gives the signal in the form of an emergency announcement to adopt the necessary measures.

The existence of the LP and the charts coordinate the indicators of the quality of the condition of the technological process with the work of specific technologists, which, in turn, makes it possible to apply expedient provisions concerning payment and material incentives. And, finally, the last function of the LP consists in that, over time, it is transformed into a "biography" of all possible situations that have developed in the condition of the technological process from the moment of the beginning of the output of the given kind of instrument under the conditions of a specific production.

The third stage of the mathematical processing of the technological information consists in constructing a table of statistical data in which each line represents the total values of the LP for a given day of startup. During the course of the year more than 200 lines are accumulated which comprise a representative selection for conducting various kinds of statistical analysis—correlational, regressive, and so forth.

The result of the processing of these data is, on the one hand, the determination of the informative parameters and quantitative values of their average daily amounts, whose provision makes it possible to achieve the given level of OTV. On the other hand, the establishment of a connection between the informative parameters makes it possible to determine precisely those technological operations which are responsible for the formation of the required product quality. The quantitative expression of these properties can be linked to the provision concerning material incentives both for concrete performers of technological operations and for organizers of production—foremen, technologists, and others who are responsible for the performance of operations that are carried out under the conditions of the functioning of the SKA. In the third place, these data make it possible to objectively evaluate the effectiveness of various previously established criteria for evaluating the quality of products that are produced and organizational and technical measures.

An analysis of the results of mathematical processing of technological information provides for prompt disclosure of imprecision in technical documentation and determines what precisely must be corrected in it. The analysis establishes the need to introduce control factors directed either toward increasing the amount of the OTV, if the matter pertains to the regulation of the technological process, or toward reducing unforeseen repair work or intraoperational production defects, or toward reducing nonproductive expenditures because of the lack of elementary order in production, leading to increased production costs.

#### Where and How To Create the SKA?

Twenty years after the appearance of the idea of creating a method of comprehensive analysis, the developed system of the SKA was turned into four autonomous, but closely interconnected subsystems:

informational—IS;

physical analysis of instruments that have failed both in the stage of production and in various tests and in operation;

statistical analysis of technical, economic, and social processes taking place in complex production;

feedback, which coordinates the results with the introduction into production of the controlling actions.

During the process of constructing the SKA and its lengthy utilization in complex production that had been uncontrolled up to this point a number of patterns were discerned which were confirmed 10 years later when constructing an SKA at another, large-series production.

First of all, it should be noted that it is most expedient to construct and develop the SKA in places where production is complex, poorly controlled, and the products that are produced are important either to the consumer or to the economy of the manufacturing enterprise, when the speed of assimilation is of essential significance.

Of course this does not mean that the construction of the SKA is prohibited in other cases. One can quite easily imagine a situation in which the modern manager, oriented toward the future, recognizes that the existing management system is unsatisfactory in that although it does not have large failures now, nonetheless it is not ready for changes. It is extremely important for the enterprise to have a force that opposes inertia and the psychological barrier.

Before making a decision about the construction of the SKA, the management of the enterprise should consider all aspects of the forthcoming work and clearly formulate the final task whose implementation, with the help of the SKA, will lead the enterprise to a new level of management. Only after this is it possible to issue an order concerning the formation of a specialized services (ours is the LAUTP), which will take responsibility for the entire complex of work related to the formation of the solution to the final problem. This service arranges its work in a particular sequence. Initially LAUTP workers study the technological process from the standpoint of determining the weak places in production and the existing points for gathering technological information (1-2 weeks) envisioned by the technological process and the existing traditions, beginning with the very first operation and ending with sending to the consumer a product that is recognized as suitable by the control staff of the OTK. At the same time one studies the system for organizing production processes and traditional actions of the personnel that perform technological operations and provide for continuous operation of the production sections. After this, a number of directive documents are drawn up: an order for the enterprise concerning the establishment of a plan-schedule for the work of constructing the SKA; subject cards for conducting scientific research and experimental design work for creating automated information systems and organizing statistical research of poorly controlled technological processes and productions; provisions for paying for workers under the conditions of the functioning of the SKA, and so forth.

Through the efforts of the service, during the course of the calendar month one organizes the collection of traditional initial information, the recording of which is

envisioned by existing technological documentation. If necessary, additional requirements are placed on the recording of information not previously envisioned by the technological process.

As the enterprise accumulates items that have undergone testing for their service life and their parameters measured in the process of production, and also testing for several selections of parameters that are independent of one another, the problem of predicting the individual durability of the instruments is solved. The degree of reliability of the calculation of the expected durability and the outcome of the tests is verified in all the samples of instruments through comparing previously calculated data with the actual result that was obtained subsequently. After obtaining a prognosis with the reliability of no less than 0.70-0.85 (if the prognosis is confirmed in an average of 7-8.5 cases out of 10) various patterns are revealed which reveal the interconnection between the time of operation of the instrument until it is completely worn out and the dynamic characteristics obtained from the results of measuring the parameters at the time of its manufacture.

The parameters that most strongly affect the durability of the instrument are singled out as informative. After the necessary initial information is determined in the first approximation, information bearers are developed (like the aforementioned information sheets—IL). Along with the development under the conditions of real production of various modifications of the IL, methods are developed for collecting and processing "input" information. The content of the "output" documentation, which contains the results of the processing of "input" information, is also processed in the practical operation of the system.

After the development and experimental verification of all the basic elements of the future information system (IS) are completed, and the service (LAUTP) has prepared the necessary personnel for running it, beginning with the first of each month, the IS and the systems for analyzing defects run continuously. In the process of the operation of these two subsystems using real material one determines the daily volumes of technological information created by production and the number of analyzed items that have been defective in any stage of production, testing, or operation. The knowledge of the daily volumes of processed information, the number of defective instruments, and the speed of manual processing information make it possible to calculate the handling capacity of the existing capabilities of the service (LAUTP) and determine the conditions for the operation of IS service personnel. At the same time one clarifies the requirements for synchronization of all elements of instruments that have failed within the given time periods. Efficient interaction of elements of the IS and the system of physical analysis is impossible without instructions concerning the official duties of people and instructions that establish the policy for movement of the defective instruments and an analysis of the causes of the defects.

As one accumulates initial reliable information that reflects the properties of the instrument in all stages of its manufacture, testing, and operation, a general mass of information is created for all instruments that have begun the first operation of the technological chain at any time.

The criteria that have been found for evaluation make it possible, in turn, to develop various provisions for stimulating labor—an important instrument in providing for continuous functioning of the feedback system—SOS. Because of the rules included in the instructions and the tables of norms of permissible deviations of the amounts of informative parameters, it becomes possible to quantitatively evaluate the promptness of the introduction of control factors into a controlled process and determine their effectiveness.

In addition to bringing the wages of each worker closer to the actual account of the personal results of his labor, there is a change in the approach to summing up the results of socialist competition. On the basis of an objective evaluation of the results of labor according to quantitative and qualitative indicators of the competitors, which are calculated for each of them on a unified scale of measurement with an equal degree of error, one finds the actual winner.

As manual methods are worked out and the SKA fits into the old system of control of technological processes and production relations, the problem of the expediency of applying modern means of computer equipment at the disposal of the enterprise is solved. If it is necessary to automate the processing of information flows, the algorithm for the development of the complex of programs is the system for manual processing of information that has been tested in practice and a control example for adjusting the programs for the computer are the results of the manual processing of the daily volumes of information done in parallel with the automated method. Experience has shown that the stage of manual processing of information at an industrial enterprise is necessary and it sharply reduces and cuts costs of technical assignments for programming, and it also helps to establish with the greatest precision and completeness the need of the SKA for technical means.

A complete idea of how an automated information system should be makes it possible to develop an effective plan-schedule of work for automating and operating an automated SKA under the conditions of active production.

As all elements of the automated SKA are worked out and the maximum precision is achieved for the results of the processing of information on the basis of which wages and bonuses are then calculated (at our enterprise a mistake caused by production workers who have incorrectly entered the number of an instrument does

not exceed 3-5 percent), there is an unnoticed replacement of the system of wages determined by the management to one which is not, and an elimination of the elements of equalizing in awarding bonuses to workers and engineering and technical personnel. The only source for calculating wages is the printout of the results of the work of the shop, brigade, and each individual worker. For the workers these indicators are the quantity and quality of instruments they manufacture, and also the fulfillment of the planned assignment by the production section. For engineering and technical personnel they are the results of the work of the shop and the level of specific defects for which a specific technologist has been given responsibility.

The concluding stage of the work for creating the SKA is the development of a standard for the enterprise—the basic normative document that determines the rules for operation and the official duties of workers, engineering and technical personnel, and management personnel of various services of the enterprise.

The sequence of work for constructing the SKA that has been presented here is only a schema. It can be altered.

The rates for constructing an SKA, according to our experience, depend mainly on how well the enterprise manager understands the need for a rapid and radical changeover of production management to a considerably higher level, the possibilities he has at his disposal, and the degree of mutual understanding and mutual support between him and the developer of the SKA. But, regardless of the peculiarities that may distinguish one enterprise from another and regardless of the interpersonal relations that may have been formed between the old management staff and the organizers of the SKA, the principles for organizing initial flows of technological information and its processing and physico-statistical analysis will remain the same. And this makes it indispensable to create a mobile special subdivision that is capable of performing its official duties every day.

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**Achieving Efficiency, Flexibility in Price Setting**  
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[Article by V. I. Tarasov, candidate of economic sciences, and V. G. Gerasimova, Institute of Economics of the BSSR Academy of Sciences (Minsk): "Efficiency and Flexibility of Price Setting. How To Achieve This?"]

[Text] The large-scale economic experiment of 1984-1985 for expanding the rights of industrial production associations (enterprises) in planning and economic

activity and for increasing the responsibility for the results of their work essentially became the initial stage in the changeover to a new type of economic mechanism. One of the pioneers of the experiment was the BSSR Ministry of Light Industry. The innovations affected planning, the evaluation of the activity of the associations (enterprises), material incentives, and other aspects of economic activity. The overall approach to the restructuring was concretized, taking into account the specific features of the branch, whose task is to satisfy the demand of the population for high-quality and varied consumer goods.

The demand is becoming increasingly dynamic, but production, as a rule, not only does not form it, but, in the majority of cases, cannot keep up with it. The solution lies in increasing the flexibility of all elements of the economic mechanism, including price setting. The purpose of this article is to evaluate the innovations in price setting that have taken place during the course of the experiment in the BSSR Ministry of Light Industry during 1984-1985 and, at the same time, to try to look at the price system for light industry goods from the standpoint of whether or not it meets the conditions for intensification of the economy. With respect to the production of consumer goods, the given conditions amount to ensuring high rates of renewal of the assortment of products and the need for essential improvement of product quality.

#### Summing Up the Results of the Experiment

The essence of the changes in the area of price setting have been reduced to the following: the enterprises (associations) and the republic ministry of light industry have been given the right to establish independently, without the participation of price setting agencies and without coordination with trade, the prices for new items that are sold in the form of the first experimental batches. The enterprises (associations) could establish retail prices in an amount of up to 100,000 rubles, and the BSSR Ministry of Light Industry—up to 500,000 rubles (in retail prices).

The main goal is to increase the efficiency of the establishment of prices for goods from light industry. The rapid obsolescence that is typical of these goods leads to a situation where many BSSR light industry enterprises have been completely changing their assortment each year for the last several years. This circumstance, and also the existing diversity of products in production make it impossible for a unified center to establish prices for new goods.

In keeping with the decree of the CPSU Central Committee and the USSR Council of Ministers, "On Improving Planning and Economic Incentives and Improving the Management of Production of Consumer Goods in Light Industry," since 1 January 1987 all production associations (enterprises) of the system of the USSR Ministry of Light Industry have been given the right to

establish temporary retail prices for new goods that are improved in quality, with increments of up to 15 percent in order to justify decisions of artistic and technical councils of production associations (enterprises) and up to 30 percent—by decision of the artistic and technical councils of the branch. Moreover, all restrictions have now been removed from the volume of production of especially fashionable goods that are sold at contract prices. Thus there has been a tendency toward decentralization of price setting for new consumer goods in light industry.

How does one evaluate the innovations that have occurred during the course of the 1984-1985 experiment? After all, the experiment is important primarily because of the conclusion for the future that can be drawn from its results. The basic feature of the experimental policy for setting prices is that the producer has been given the right to establish the price for his products. This, however, is also the main shortcoming. Under the conditions of the stronger role of contractual relations between industry and trade, when the plan for production according to assortment should be formed on the basis of orders from trade and the evaluation of the fulfillment of the plan for sales is done taking into account the fulfillment of contractual commitments, the establishment of prices by producers without the participation of trade (the consumer) can hardly be considered to be a promising direction for democratization of price setting.

What did the experiment show from the standpoint of increasing the flexibility and efficiency of price setting? The utilization by the enterprises and the BSSR Ministry of Light Industry of the right to establish prices independently increased the efficiency of price setting for new goods to a certain degree. While previously the enterprises frequently took up to a half year to coordinate the price for a new item at several levels, including the branch scientific research institutes, under the conditions of the experiment the time periods for setting prices, as a rule, did not exceed 7-14 days.

But acceleration of the process of price setting in and of itself is not the main factor in the acceleration of the process of the introduction of new products into production since in a number of cases the output of new items at the enterprises did not begin until several months after the prices were established. This is related to the fact that the time periods for beginning the output of new consumer goods are determined by schedules for the introduction of new products which, in turn, depend on the duration of technological preparation of production, the time intervals for conducting wholesale trade fairs, and the deadlines for delivering goods to the trade network, which are coordinated when concluding the agreement at the wholesale trade fair, resolutions of problems concerning the replacement of the assortment, and so forth.

The enterprises and the BSSR Ministry of Light Industry have taken advantage of their right to set prices to a certain degree. Thus during 2 years of the experiment

they established prices for 702 new items, including the enterprise—for 584, and the ministry—for 118. But the proportion of these products in the overall volume of sales of the BSSR Ministry of Light Industry amounted to less than 1 percent.

It would seem that the enterprises would be glad to grasp onto the opportunity granted to them to establish prices independently. But this is not at all the way it was, and there are objective reasons for this. Special interest in independently establishing prices was displayed by enterprises that produce small volumes of relatively inexpensive, diverse products. For example, the Minsk Experimental Accessories Plant in 1985 set prices for 54 new items, and the Mogilev Ribbon Weaving Factory—for 17. The proportion of the first experimental batches in the volume of product sales of these enterprises was one of the highest in the branch and significantly exceeded the proportion of these products at large enterprises that produce relatively costly items (there, in the majority of cases, it amounted to no more than 0.5 percent of the sales volume). But for enterprises that were manufacturing inexpensive items another problem arose: the volumes and time periods for the output of the first experimental batches there were in no way different from the volumes and time periods for the output of products in mass production. The output of the first experimental batches became meaningless, and the "experimental" price was essentially the same as the permanent prices.

At the same time, for enterprises producing relatively costly products with large production volumes, the volume of products worth 100,000 rubles was insignificant and frequently did not coincide with the technical capabilities of production. The readjustment, say, of a foot-wear conveyor every one or two shifts in order to produce 100,000 rubles' worth of products involved great losses. It was quite obvious that this was not advantageous to the enterprises. It would be impossible to solve these problems through differentiating the maximum volumes of the first experimental batches and establishing limited (fixed) time periods for their output.

A certain role in the lack of desire of the enterprises to set prices for the first experimental batches and then change over to the output of products at permanent prices was also played by the circumstance that sometimes the enterprises were afraid of economic sanctions from price-setting agencies. Thus the Mogilev silk fabric combine produced as a first experimental batch some Portiere fabric at a retail price of 6 rubles per meter. When changing over to mass production of this fabric the documents for approval of the permanent list price were sent to the USSR State Committee for Prices. The latter approved for it a permanent price in the amount of 11 rubles per meter and made a decision to withdraw from the enterprise into the state budget a total of 128,200 rubles. This was motivated by the fact that the Mogilev



Silk Fabric Combine had set a price for the first experimental batch that was lower than the permanent price that was subsequently set by the USSR State Committee for Prices.

And yet this decision is questionable. It is typical that prices for the first experimental batches of new products set by enterprises of the DSSR Ministry of Light Industry have deviated from the permanent prices that were subsequently set for them both in the direction of increase and in the direction of reduction. Thus, for example, for one of the items of the Vitebsk Hosiery Factory imeni KIM the permanent price was set at barely half as much as the initial price set by the enterprise when this item went through as the initial experimental batch.

The possibility of a certain deviation in the prices of experimental batches (both contractual and those established independently during the course of the economic experiment) was brought about by the fact that in the stage of the experimental batch it was necessary not only to establish through consumer demand not only the consumer qualities of the product, but also the substantiation of the established price. Subsequently, when changing over to mass output, this price, which was essentially a test price, could be adjusted. Moreover, the setting of prices for the first experimental batches was based on individual expenditures and the profitability of the items of a given group at that enterprise for the permanent prices are based on normative average branch expenditures and normative profitability. The difference between the retail price of the first experimental batch and the permanent price is caused by the fact that retail prices for items of experimental batches are established, as a rule, at the level of the retail price of an analogous item, and it is fairly difficult for the enterprise to select the correct one. Therefore the enterprises, in the majority of cases, select as analogues items which they produce themselves.

The expansion of the rights of the enterprises in the area of economic activity presumes a simultaneous increase in the responsibility for their final results. This, as we know, was the essence of the experiment. But in this case the expansion of the rights of the producers in the area of price setting was not reinforced by the introduction of economic responsibility of the enterprises for sale to the consumer of the goods for which they themselves had set the prices. In individual cases the enterprises produced as a first experimental batch products of an essentially "dying" assortment, that is, items whose mass production at permanent prices was already completely inexpedient since the demand for them had dropped. It is no accident that permanent prices were established subsequently for only about 25 percent of the models whose prices had initially been established by the enterprises or the ministry as for first experimental batches. At the same time the output as a first experimental batch of products that were known to be unmarketable is only one of the reasons why a permanent or even a temporary

price was not established for them subsequently. In a number of cases the initial experimental batch was in no way different, as was already noted, in terms of volumes or time periods of production from the products in mass production. Therefore the enterprises sold the entire volume of output at the "experimental" price and, consequently, they had no need to establish a permanent one subsequently.

The results of the experiment pertaining to innovations in price setting showed that the prices for the first experimental batches established by the enterprises or the ministry were practically not included in the existing system of prices for light industry goods, and they did not become simpler or more flexible. The given price system consisted of permanent and temporary prices for goods with improved quality and contractual prices for the first experimental batches and especially fashionable items. The introduction of a new kind of prices complicated this to a certain degree and there were also elements of duplication. In particular, it was discovered that for one and the same category of products—first experimental batches—it was possible to establish essentially two kinds of prices: one price could be established by the enterprises or the ministry independently and the other (the contractual price) had to be coordinated with trade. And in the latter case there was to be mutual material responsibility of the producer and trade for the sale of the products to the consumer. At the same time the contractual price, as distinct from the "experimental" one, contains, as a rule, in its structure additional profit and, consequently, created the possibility of additional material incentives for the producer and trade. It is interesting that in a number of cases it was more advantageous for the enterprises to "sacrifice" efficiency of price setting for purposes of immediately acquiring a temporary (increased) price for their writing, if it could be given the index "N."

The main conclusion that can be drawn on the basis of the analysis of innovations in price setting during the course of the experiment of 1984-1985 in the BSSR Ministry of Light Industry is: granting the associations (enterprises) and the ministry rights to establish prices for first experimental batches of new items did not exert any significant influence on the efficiency or flexibility of price setting or on the motivation of the enterprises to update and improve their assortment.

#### **Expansion of the Utilization of Contractual Prices: "For" and "Against."**

In keeping with the decree of the CPSU Central Committee and the USSR Council of Ministers, "On Improving Planning and Economic Incentives and Improving Management of the Production of Consumer Goods in Light Industry," beginning in 1987 the BSSR Ministry of Light Industry is permitted to form in its production associations (enterprises) funds for production and social development and also a wage fund according to long-term normatives from income from product sales



minus material expenditures, payments into the budget, and other mandatory deductions. The direct connection between the wage fund and the results of production activity of the enterprises increases the stimulating role of prices: the wage fund will react considerably more "sensitively" than it did before to changes in these results, including those conditioned by a change in prices.

Under the conditions of work according to the residual income method, there should be a considerable increase in the influence of the mechanism for increments and rebates to prices, since additional profit (when establishing the increment to the price) like the withholding of part of the profit (in the event of a discount) will exert a direct influence on the amount of the gross and, consequently, also on the residual income of the enterprise.

As we know, trade is now changing over to complete cost accounting. Under these conditions, in our opinion, it would be expedient to expand the sphere of contractual relations between industry and trade not only in planning, but also in price setting. Contractual prices are one of the most successful forms of increasing the flexibility and efficiency of price setting. With their help a real possibility is created for providing for an optimal combination of the centralized basis and expansion of the independence of enterprises in the area of price setting along with an increase in the role of trade and the formation of prices and influence on the consumer.

It should be emphasized that contractual prices can function effectively only within the framework of an adequate economic mechanism that provides for a combination of extensive rights of the producers and the consumers in economic activity and strict economic responsibility for their results. This presupposes a direct dependency between the incomes of the enterprises and the results of their economic activity. Therefore the problem of contractual prices should be approached comprehensively, considering them in the system of all economic levers and stimuli.

Sometimes contractual prices are regarded almost as a panacea for all economic ills, which, in our opinion, is not sufficiently substantiated. There is hardly any point in considering them as some special kind of prices which should be based on some different principles of price setting that are distinct from the general principles for forming prices under the conditions of a planned economy. Contractual prices should be established on the basis of normative (progressive) expenditures per unit of consumer value.

Where can one see the important advantage of contractual prices? In the fact that they make it possible to take into account to a larger degree the conditions for production and sales of products, and this means they make it possible to coordinate the economic interests of the producers and consumers better. Contractual prices can be an effective lever for the so-called anti-expenditure

mechanism for management under conditions of work with complete cost accounting. This is conditioned by the fact that the consumer is playing a more significant role since he will be interested in minimizing his expenditures in order to increase his cost-accounting income.

It should be stipulated at the outset that for consumer goods this problem is somewhat more complex: the task of preventing a growth of prices is complicated by the significant commodity-monetary imbalance, which amounts to billions of rubles. At the same time, under conditions of the work of trade on the basis of complete cost accounting, when incomes are determined by earnings from sales, it will hardly be interested in establishing high prices for products for which there is no demand. And contractual prices for the first experimental batches will create a real possibility of trying out the price for the commodity so that subsequently a better substantiated price can be established for products for mass consumption.

One of the advantages of contractual prices for light industry goods is the possibility of overcoming the immobility and freezing of prices. For at the present time changes in them are frequently so delayed that even a subsequent considerable reduction in prices cannot lead to sales of the products. Under the conditions of the rapid obsolescence of products, the following question is quite legitimate: should the price lists for mass consumer goods that are established centrally be permanent? Or would it be more expedient to grant the trade and industry enterprises a kind of "space for maneuvering," that is, the opportunity to maneuver the price taking into account conditions for sales of the products within the framework of the upper and lower limits. Similar experience, incidentally, has been accumulated in certain socialist countries.

A question also arises about the time periods for the functioning of temporary prices, which now, in the majority of cases, absolutely do not justify their name. As the analysis showed, under conditions of high rates of renewal of the assortment of light industry goods, temporary prices are essentially permanent ones.

The maximum time periods for a temporary price to be in effect is now 2 years, that is, it is fairly long. For this reason it is practically impossible to change it into a permanent one. The commodity is removed from the assortment of produced products before the time period for the temporary price has expired. Therefore it would be expedient when establishing the maximum time period for the effect of temporary prices to take into account the rates of renewal of the assortment and to differentiate the maximum time periods for the functioning of temporary prices according to the various kinds of products. For those products that are updated at more rapid rates (for example, footwear), one should establish the shortest time periods for temporary prices while for goods that are characterized by slow obsolescence and, consequently, lower rates of updating of the

assortment (for example, fabrics), longer time periods should be established. A prompt changeover from a temporary price to a permanent one could prevent having goods of improved quality fall into the category of unmarketable ones and be subsequently marked down.

One of the significant shortcomings of the existing price-setting practice is the underestimation of the factor that price dynamics should be determined not only by the dynamics of expenditures, but also by the dynamics of the consumer value of the product. This is conditioned by the fact that "labor expenditures are formed per unit of the quantitatively and qualitatively determined consumer value."<sup>1</sup> The dynamics of expenditures are linked primarily to the conditions for the production of the products of labor while the dynamics of the consumer value of the products are influenced not only by factors that lie on the side of production, but also by conditions for consumption. In particular, fashions and, consequently, changes in aesthetic consumer qualities of products determine the change in the level of consumer value of a commodity since it depends not only on the physical-substantial properties, but also the aesthetic consumer properties. Therefore the need for prompt changes in prices in the majority of cases is conditioned not by a change in expenditures (they are more stable in nature), but by a change in the consumer value of the product. The reason for the global price revision should be the changes in the level of expenditure while the current regulation of prices depends primarily on changes in the consumer value of the commodity.

The main argument against expanding the sphere of the effect of contractual prices, as a rule, amounts to the possible tendency toward increased prices. Let us turn again to practice. The difference in the levels of contractual prices and prices for mass-produced goods in the BSSR is 5-50 percent. An analysis of prices for products of a number of knitting enterprises of the BSSR Ministry of Light Industry during the course of the experiment of 1984-1985 showed that in the majority of cases the difference between the prices of mass-produced goods and contractual prices did not exceed 10 percent. This circumstance indirectly shows that it is not always the "especially fashionable items" that are distinguished by truly high quality. Therefore, fearing poor sales, the producers and trade, in a number of cases, have decided not to establish higher contractual prices. It is no accident that in the provisions of the USSR State Committee for Prices concerning contractual prices, which went into effect on 1 January 1986, the instruction is that especially fashionable items include those for which the additional profit in contractual prices is envisioned in an amount of no less than 15 percent when the retail price (not including additional profit) is up to 100 rubles and 10 percent when the retail price is more than 100 rubles.

This decision makes a certain amount of sense: it will be necessary to win over consumers mainly through product quality. Make a product of high quality and it will be

purchased even at a relatively high price! Yet the division of prices into only two groups (up to 100 rubles and more than 100 rubles) and, consequently, the establishment of two lower limits of increments seems excessively consolidated, for in the interval up to 100 rubles there are prices of 10-20 rubles and more than 50 rubles. For less expensive items the depth of price differentiation can obviously be greater than for more expensive ones.

Contractual prices for especially fashionable items should be considerably different in terms of their level from prices for mass-produced goods. And this distinction is conditioned primarily by the level of product quality for which these prices are established. It should be especially emphasized that the distinction should be namely at the level of quality, which generally characterizes the measure of consumer value of the product, and not according to individual consumer characteristics. Under the conditions of the experiment, the output of goods sold at contractual prices increased at rapid rates. In 1985 almost 40 million rubles' worth of products of the BSSR Ministry of Light Industry were sold at contractual prices—twice as many as in 1983. But still the proportion of these products was not high—only 1 percent of the overall volume of sales in the ministry. At the same time the proportion of products with the index "N" exceeded 35 percent.

An extremely important reason for the inadequate interest in the output and sales of products at contractual prices was the mutual material responsibility of industry and trade for the sale of these goods to the consumer. Industry and trade should make reimbursement for losses when contractual prices are reduced. In keeping with the decree of the CPSU Central Committee and the USSR Council of Ministers, "On Improving Planning and Economic Incentives and Improving the Management of Production of Consumer Goods in Light Industry," material responsibility for the sale of products at contractual prices lies completely with the producer. But under the conditions of the operation of industrial and trade enterprises, according to principles of complete cost accounting, this decision is questionable. Contractual relations presume mutual responsibility of the contracting agents in the exchange. Therefore the responsibility for sales of products whose prices are established according to an agreement between industry and trade should also be mutual.

#### **What Is Concealed Behind the Index "N" and Temporary Prices?**

The incentives for the enterprises are now relatively equal for selling products at temporary and contractual prices: in either case 45 percent of the increment to the retail price is deducted into the budget and 15 percent into the material incentive fund. Yet, in our opinion, the incentive should be formed in favor of especially fashionable goods as products with a higher level of consumer quality. But at the present time material incentive funds are augmented mainly through deductions from

increments to temporary prices for goods of improved quality while additional profit obtained from the sale of items as contractual prices, in the majority of cases, exerts an insignificant influence on the growth of the material incentive funds of the enterprises. The significant stimulating influence of temporary prices on the producers with a considerably lower product quality than that of the especially fashionable items, and also the easy acquisition of the temporary price lead to a situation where "innovations" are produced continuously and flood the market while there are not enough goods that the consumers need.

The task of temporary prices for consumer goods in light industry is to stimulate a significant improvement in the assortment and the quality of the products. But now they stimulate mainly quantitative growth of product output. The insufficiently high quality of models with the status "goods of improved quality" and the output of excessively large volumes of them have led essentially to a discreditation of the index "N" and temporary prices.

One of the reasons for the excessively high rates of output of goods that are sold at temporary prices is the commodity-monetary imbalance. As a compulsory measure to overcome it, volumes of production of consumer goods are increased in value terms. At the same time the insufficiently high quality of the products for which temporary prices are established leads to a slowing up of their sales. It becomes a closed circle: in order for the demand to correspond to the supply, the output of goods at increased prices increases significantly, but the insufficiently high quality of these products gives rise to a lack of correspondence between demand and supply. Confering the status of "commodity of improved quality" on the items meets the interests of industry, trade, and the financial agencies, but frequently it contradicts the interests of the consumer. Therefore temporary prices far from completely fulfill their role in saturating the market with truly high-quality products.

It is no accident that recently the question is raised more and more frequently: in general is it necessary to have the index "N" and, correspondingly, the temporary price? The excessive increase in the output of these products when "innovations" are literally "dissolving" in the mass of goods and frequently the unjustified establishment of temporary prices make it possible to give a quite simple answer to this question: the index "N" in the form in which it now exists is not necessary. In fact, its existence can be justified only by high product quality and a high level of demand from the consumers. There is no other way. The solution, in our opinion, consists in the need to impose significantly stricter requirements on the quality of products that are given the status "commodity of improved quality" and the index "N," and also the transformation of temporary prices into a variety of contractual prices that are established by agreement between industry and trade. In this case it would be expedient to establish centrally the maximum level of increments in percentages of the permanent (list) price.

The expediency of placing stricter requirements on items with the index "N" is especially obvious now since temporary prices with increments of up to 15 percent will be established on the basis of decisions of the artistic-technical councils of the enterprises. In this connection it is interesting to consider the experience of four BSSR light industry enterprises which, along with other light industry enterprises of the country, were granted the right beginning 1 July 1983 to establish temporary prices on the basis of decisions of the artistic-technical councils of the enterprises. At these enterprises the proportion of commodities with improved quality in the volume of products sold considerably exceeded the given indicator on the average for the BSSR Ministry of Light Industry. Thus, for example, the Minsk Progress Production Knitting Association, the Orsha Linen Combine, the Mogilev Experimental Footwear Factory, the Grodno Neman Production Association in one year of the experiment, from 1 July 1984 through 1 July 1985, established 274 prices, and the proportion of products with the index "N" in the sales volume was 52 percent, which is almost 20 percent more than the proportion of these products in the ministry as a whole. At the MPTO Progress, 44.3 percent of the outer knitwear and 40 percent of the underwear were produced with the "N," at the Orsha Linen Combine—59 percent of the items, at the Mogilev Experimental Footwear Factory—94 percent of the shoes, and at the Neman NPO—54 percent. Moreover, practically all the models of items that were submitted were recommended by artistic-technical councils of the enterprises for the status of "commodity of improved quality."

The experiment showed that granting the enterprises the right to establish temporary prices for themselves contributed to a certain degree to the acceleration of the rates of updating of the assortment, the increase in the output of commodities with improved quality, and to the increased efficiency of price setting for new goods. At the same time, the artistic-technical councils of the enterprises did not always evaluate the product quality objectively enough.

The main shortcoming of the existing system of certification for the index "N" is the fact that practically any new items can fairly easily acquire the status "commodity of improved quality." Making any single change in the model of footwear, for example, the renewal of the style of a heel, makes it possible to establish a temporary increased price for this commodity. The situation is similar with fabrics, where more than half of the models receive the index "N" because of changes in the pattern. Of course, the pattern of a fabric or the fashionable nature of a heel are extremely important aesthetic consumer characteristics for light industry goods. But this does not mean that all items as a whole have higher quality. There is no comprehensive approach for evaluating product quality. For footwear, for example, many consumer specifications have been singled out and therefore practically any new model can get enough points to establish a temporary price. It is no accident that the

proportion of footwear with the index "N" at a number of enterprises reaches 60-70 percent of the sales volume, while the quality causes significant complaints from the consumers.

Temporary prices are now oriented toward quantitative saturation of the market, which is essentially a task of "yesterday." Today something else is important: let there be fewer goods with improved quality but they should be goods with a really higher level of consumer qualities. We are speaking precisely about a different level of consumer qualities, and not about a change in individual consumer specifications.

#### **Differentiation Depending on Consumer Qualities of Products. Accounting for Nonfunctional Demand**

It would be expedient to introduce a unified evaluation for the quality of all light industry products (according to the kinds of products) and also to evaluate both functional (physical-substantial) and aesthetic consumer qualities. Correspondingly, there should be several levels of quality of functionally homogeneous products. Moreover, the list prices should be established in the form of ranges with upper and lower limits within which the prices could be formed according to an agreement between industry and trade. These prices, formulated for products of the basic (normal) quality, should form the base level, the framework of the entire system of prices for consumer goods in light industry.

The contractual price for a commodity with a higher level of consumer qualities should correspond to the next level of quality of functionally homogeneous products, and, finally, the contractual price for a commodity with an especially high level of consumer qualities should correspond to the highest level of consumer qualities. Thus one would provide for a substantiated differentiation of prices for products with various levels of consumer qualities within the limits of the public demand. And if the level of quality of the item is lower than the base level, a reduced price (a rebate) should be set for it.

The realization of the principle of the formation of prices per unit of consumer quality will be consistent if the establishment of higher prices is accompanied by an establishment of reduced prices for goods whose level of consumer qualities decreases as a result of the appearance of products with a higher level of aesthetic consumer qualities. But now discounts are established extremely rarely. Thus, for example, in the second half of 1985 the BSSR State Committee for Prices established 1,063 temporary prices for new goods with improved quality while during this same period discounts were established for only 77 kinds of consumer goods.

Now at individual enterprises of the BSSR Ministry of Light Industry collections of world analogues are being created, and this is undoubtedly a positive phenomenon. At the same time, in order to avoid a "campaign for imports," it is important not simply to reach the level of

the best world analogues, that is, to copy the items of foreign firms, but to try in some places to become "the legislators" of fashion, the pioneers of the output of principally new items.

Differentiation of consumer demand, which is conditioned by differentiation of monetary incomes, objectively requires the output of functionally homogeneous products with various price levels and, consequently, with various levels of consumer qualities. This problem, apparently, cannot be solved otherwise than through planning the assortment according to price groups. There can be three basic price groups: prices for goods with a basic level of quality, with an increased level of consumer qualities, and with an especially high level of consumer qualities. The volumes of output of products whose prices fall within one price group or another should be planned on the basis of the study of the demand of the consumers. It is quite obvious that under the conditions of differentiation of the effective demand the tendency toward excessive increase in the output of products at higher prices has unfavorable social consequences.

We should like to draw attention to one interesting aspect of the problem of differentiation of demand. The long-term denial of the existence of a market under the conditions of socialism had the consequence of underestimating the need for studying the psychology of the consumers and their behavior when selecting consumer goods. In particular, we do not devote enough attention to the so-called "nonfunctional demand," which is a demand conditioned not by the functional purposes of the consumer goods, but by the behavior of other people. This demand exists only for consumer goods. Accounting for nonfunctional demand is becoming an insistent requirement under the conditions of satisfaction of the primary demand for light industry goods.

V. M. Halperin drew attention to the problem of nonfunctional demand for the first time. In particular, he showed that western economists single out three types of nonfunctional demand: the effect of "joining the majority," the snob effect, and the Veblen effect. In the first case the demand is brought about by a desire to imitate the majority of consumers, in the second—on the contrary, by a need to distinguish oneself from the majority, and in the third case—the demand is motivated by a desire to demonstrate one's social status (the so-called "prestige consumption").<sup>2</sup>

As the structure of productive approaches the structure of demand and the market is saturated with high-quality products, the significance of prestige consumption should increase, since under the conditions of socialism it is a basic result of the shortage of goods and of their poor quality. At the same time, a weakening of the role of prestige consumption cannot take place for all kinds of consumer goods at the same rates. This is related, in the first place, to the economic possibilities of production and, in the second place, to the objective differentiation

of monetary incomes under socialism. Thus, for example, if complete satisfaction of consumer demand for light industry goods is a primary task of the present day, complete satisfaction of the demand for automobiles, video tape recorders, personal computers, and so forth will take considerably more time.

The need for complete satisfaction of the demand of various categories of consumers for light industry goods makes it expedient to account for the peculiarities of the first two types of nonfunctional demand in order to optimize the assortment and quality of the products. In this respect the experience of the socialist countries is interesting. The nonfunctional demand of consumers for light industry goods is taken into account to a certain degree in the GDR. Youth, for example, they are considered not as a homogeneous category of consumers, but are subdivided into two age groups: from 14 to 17 and from 18 to 26. The level of consumer qualities of light industry goods, the diversity of models, and the reproduction of identical models are differentiated depending on the age. It was discovered, in particular, that adolescents are not afraid of the standard (the effect of "joining the majority") and therefore the volumes of output of items of the same type for them reach hundreds of thousands. At the same time youths in the second age group strive to show their own individuality in clothing. There is a difference in the attitude toward the same products among consumers of the two sexes and therefore models for girls are produced in small batches.

The amounts of output released should also be taken into account in price setting. The output of goods in small batches involves additional difficulties for the enterprises caused by the frequent change in assortment. Therefore, from our viewpoint, when utilizing contractual prices real possibilities are created for accounting in price setting for the volumes of products released. It would be possible to motivate the enterprises to produce items in small batches.

Under the conditions of expansion of the rights of enterprises it would be interesting also to discuss the problem of the so-called "leadership in prices." For competition for the consumer can proceed not only along the lines of improving product quality, but also as a result of more flexible utilization of price forms. This possibility could also be provided by contractual prices. In order to stimulate sales the contractual price could be relatively low under the condition that all the necessary payments are made into the budget.

Using prices to stimulate the satisfaction of consumer demand in terms of assortment and quality of products under the conditions of complete cost accounting is determined to an ever increasing degree by the coordination of the effects of price and financial levers. The existence over a long period of time in branches of light industry of a significant amount of free residual profit has weakened the stimulating role of prices. It is now

becoming increasingly obvious that the problem of motivating producers to produce a children's assortment cannot be solved through the price-setting mechanism alone. This problem can probably not be fully solved by preferential payments from profit into the budget or increased normatives for deductions into the economic incentive funds of the enterprises either. It is necessary to think about redistributing budget funds in favor of the manufacturers of the children's assortment so as to provide for equal advantage in the output of the children's and the adult assortments.

#### Footnotes

1. Marx, K., and Engels, F., "Soch." [Works], Vol 13, p 18.

2. Halperin, V. M., "Prices and Certain Social Aspects of Improving Distribution Relations," in the book: "Sovreshenstvovaniye metodov stimulirovaniya tsenami proizvodstva tovarov narodnogo potrebleniya" [Improvement of Methods of Stimulating Production of Consumer Goods for Prices], Moscow, 1983, pp 41-42.

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**Hydrocarbons To Be Utilized More Effectively**  
*18200006f Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 9, Sep 87 pp 97-102*

[Article by Ya. M. Bronshteyn, head specialist of the technical division of the planning section of the ONPO Plastpolimer (Leningrad): "Utilizing Hydrocarbon Raw Material More Effectively"]

[Text] The article published in EKO by Corresponding Member of the USSR Academy of Sciences A. G. Granberg entitled "Structural Changes and Intensification of Industry in Siberia"<sup>1</sup> quite correctly raised the question of the need to change over to in-depth and comprehensive processing of hydrocarbon raw material in Siberia. The author emphasized the task of increasing Siberia's unionwide share in the production of plastics, synthetic resins, and other chemicals to 25-35 percent. And he was undoubtedly right. But planning agencies for decades have been taking plastics out of the category of urgent necessities and putting them into the category of deferred demand. This led to an appreciable difference between the demand for them and their production, including their production in regions of Siberia.

While the USSR proportion of world industrial output was 20 percent in 1984, in production of plastics it was only 8.6 percent.<sup>2</sup> Yet without plastics there can be no acceleration of scientific and technical progress or reduction of material-intensiveness. Such countries as Japan

and the FRG, which do not have raw material resources for producing plastics, in 1984 produced 9 million and 7.4 million tons of them, respectively.<sup>3</sup> (the USSR—4.8 million tons).

The world production of plastics and synthetic resins is increasing from year to year and in 1985 it reached 60 million tons (not including socialist countries).<sup>4</sup> At the present time it comprises 7-8 percent of the world volume of all chemical products. The United States, the FRG, and Japan produced 60 percent of all the plastics and synthetic resins. The socialist countries account for only 10 percent of their production in the world. About 75 percent of the world output of plastics are polyethylene, polypropylene, polyvinylchloride, and polystyrol for general purposes, shock-resistant and foam materials, and ABS resin (acronym for the acrylonitrile-butadiene-styrene copolymer). These products in their modified and improved types will occupy the leading position after the year 2000 as well.<sup>5</sup> The production of plastics continues to develop at high rates, providing for a 1.5-fold increase in their output every 5-10 years.

Under the conditions of the acceleration of scientific and technical progress, plastics and synthetic resins occupy a special and independent position since without their utilization it would be impossible to create the most effective and economical types of machines and instruments for the aviation, automotive, space, shipbuilding, radio equipment, electrical equipment, electronics and other branches of industry. In the United States in 1984 electrical equipment and electronics utilized 8 percent (1.5 million tons) of the plastics produced in the country. Automotive construction is also a large consumer of plastics in all countries. By 1990 the United States will be using up to 160 kilograms of plastic parts in each motor vehicle, whose mass, in turn, will decrease to 1.1 tons (from 1.3 tons in 1985), and by the year 2000 the proportion of plastics, according to predictions, can reach 20 percent of the mass of the motor vehicle.<sup>6</sup>

The utilization of 100 kilograms of polymer materials in a passenger vehicle reduces the fuel expenditure per 100 kilometers of travel by more than 1 liter. Moreover, the external appearance of the automobile improves, the production process is simplified, the length of the production conveyors decreases, and the service life of the automobile increases.

When items are manufactured from modern plastics the electric energy consumption decreases by a factor of 2-5 as compared to when these items are produced from ferrous metal, and by a factor of 1.2-1.3 when they are produced from timber and wood products. The labor-intensiveness of the manufacture of the majority of items made of plastic is reduced by a factor of 2.5-4 as compared to the labor-intensiveness of the manufacture of similar items made of metal, largely as a result of the degree of automation and mechanization of production and technologies with fewer operations.

The proportion of the consumption of plastics is significant in construction, which accounts for the following proportions of all the plastics produced: the FRG—25 percent; the United States—20 percent; Great Britain—20 percent; and France—18 percent. Moreover, the rates of increase in their consumption and construction are higher than the rates of increase in construction work. In the FRG in 1980 the utilization of plastics increased by 68 percent as compared to 1970 while the increase in the volume of construction as a whole increased by only 2.5 percent. In terms of the growth rates the utilization of plastics greatly outstrips other construction materials.

In recent years foreign countries have been attaching more and more significance to new areas for the utilization of plastics: for window frames, in closed heating systems, and in the walls of buildings. It has been established that by utilizing foam plastic it is possible to save up to 30 percent of the heat that is consumed, and 85 percent of the insulation materials in the FRG are expanded polystyrene. According to calculations, heating a brick wall 24 centimeters thick with a layer of expanded polystyrene of 5 centimeters produces a savings on oil of 8.7 kilograms per square meter during the heating season. Expanded polystyrene in the form of rigid slabs has been used for more than 20 years now for heat installation of exterior walls.

Among the measures for economizing on energy it is becoming important to develop efficient heating systems using pipes made of polypropylene whose service life was determined when they were inspected for aging at 50 years instead of 7-8 years for pipes made of metal, and energy expenditures on their utilization decreased by 20 percent.

It has been calculated that in the United States, because of the replacement of natural materials with plastics the annual savings on energy in recent years has been equivalent to approximately 20 million tons of petroleum. The energy that has been saved comes from: polyethylene—30 percent, polystyrene—80 percent, polyvinylchloride—16 percent, polypropylene—14 percent, and so forth.

Many countries, including our northern neighbors, including Finland and Norway, apply polymer materials to prevent freezing of roads—expanded polystyrene slabs, polypropylene fabric, and so forth. These materials are also used for distributing the load on the strip of highway better.

Evidence of the priority in the development of production of plastics are the growth rates of capital investments in this branch of industry in the economically leading countries. They are considerably higher than in the chemical industry as a whole. Moreover, the products are being updated and the assortment is being expanded.

During the past 2 decades plastics have become more competitive with many metals, and the low rates of increase in prices for polymer materials have contributed to this. Thus the index for price increases for large-scale thermosoftening plastic materials during 1960-1980 was 260, for ordinary steel—300, for specialized steels—383, and for iron and nonferrous metals—293 and 430, respectively.

The plastics industry was further developed in our country as well under the 9th-11th Five-Year plans. Large capacities were introduced for polystyrene plastics (Omsk, Shevchenko), polyethylene (Novopolotsk, Kazan), and polypropylene (Tomsk, Guryev). Although the output of polymer products increased during that period by a factor of 1.8-2, their production is not keeping up with the growth of social demands. This takes place because the plastics industry was not linked with the raw material base into a unified material producing complex and does not take adequate measures to utilize the rich resource possibilities, of which we have more than any other economically leading country in the world. Our level of gas processing is also significantly lower. In the United States in 1984 the volume of gas processing was 418 billion cubic meters and in the USSR—90 billion. During the past decade in the United States natural and petroleum gas were the main raw material for obtaining ethylene (about 54 percent)—the initial product for the production of plastics.

Each year we burn as furnace fuel and in torches (in natural gas and casing head gas) tens of millions of tons of ethane—that alternative kind of raw material for chemical products which is successfully replacing petroleum raw material. The wide fraction of light hydrocarbons—propane, butane, and others—is another one of the most important kinds of raw materials for producing plastic. Under the 12th Five-Year Plan the quantity of raw material that was burned increased by a factor of 1.4.

As calculations have shown, from the ethylene that could be obtained from the hydrocarbon gases that are burned each year it would be possible to produce 15 million tons of plastics a year. Consequently, with an average value of 1 ton of plastics of 1,000 rubles, 15 billion rubles annually "go up in smoke."

Thus there is a persistent need to change the existing situation and take immediate measures to create gas-chemical complexes for producing plastics out of hydrocarbon raw material, mainly in the largest gas extracting region—Western Siberia.

The most valuable hydrocarbon raw material for plastics is gas condensate from the Vlanzhinskiy Bed of the Urengoy Deposit. Bringing this and other deposits of Western Siberia into production in order to obtain olefins from them on a large scale and, on the basis of these, polyolefins, polystyrene, and polyvinyl acetate

plastics and other products is a crucial task of the 12th and subsequent five-year plans, the more so since the proportion of petroleum as a source of pyrolysis raw material will decrease.

In Western Siberia, with its large sources of hydrocarbon raw material and water and energy resources, it is possible, with the construction of the corresponding number of gas-chemical complexes, to assimilate all the potential raw material for plastics and synthetic resins and to increase Siberia's share in the unionwide production of plastics to 70-80 percent.

Siberia can and should be not so much a large producer of plastics as a consumer of them. Very important for it, especially the northern part, are polymer films for agriculture (covering soil, hothouses, and so forth), for purposes of packaging products that require lengthy storage, for preventing the freezing through of roads, and for supporting soil with a low load-carrying capacity. Plastics could be a serious factor in economizing on fuel and in construction production, and with a wide range of their application, they will contribute to the development of more productive methods of construction. Construction parts that do not bear a large load—those that separate elements, exterior and interior finishing of buildings, sanitary and technical equipment, heat, sound, and water insulation, and small architectural forms—all these can be made of plastics.

Taking into account the severe climatic conditions of Siberia and the earmarked scale of housing and civil construction up to the year 2000, it is necessary to revise the list of items of housing construction combines in order to introduce plastics into construction.

The "service life" of technological processes in chemistry, which was 15 years at the end of the 1970's, will decrease to 8-10 years in the 1980's. In 1990-2000 it will be 7-8 years. Because of this one must draw the conclusion that new construction of complexes for producing plastics must be carried out at accelerated rates so that the technologies do not become outdated during the time they are under construction.

In conclusion we should like to draw the following conclusions: it is time to stop talking about the squandering of valuable hydrocarbon raw material that could be processed into chemical products, including practice, and start doing something. The future gas-chemical complexes of Tyumen, Omsk, Sverdlovsk and Tomsk are large and complex facilities of planning and construction and it is necessary to begin to create them under the 12th Five-Year Plan.

It is necessary to develop a system that is coordinated in time for the development of enterprises of manufacturers and consumers of hydrocarbon raw material and prepared products on the regional and branch scale. The



formation of interbranch complexes for utilizing hydrocarbon raw material has become an insistent and immediate demand of scientific and technical progress.

#### Footnotes

1. EKO, No 6, 1985.
2. "The USSR in Figures in 1984," p. 65.
3. Mat. "plastedelast," No 12, 1985.
4. Ibid.
5. Z. Poloer, "Khimiya na puti v tretye tysyacheletie" [Chemistry on the Path to the Third Millenium], Moscow, "Mir," 1982, p 197.
6. Survey information, "The Condition and Tendencies in the Development of the Consumption of Polyolefins and Polystyrene Plastics in the Automotive Industry Abroad," NIITEKHIM USSR Ministry of the Chemical Industry, 1982, p 2.

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#### Capital Investments in Chemical Industry Discussed

18200006g Novosibirsk *EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO)* in Russian No 9, Sep 87 pp 103-109

[Article by S. S. Brandobovskiy, L. K. Tatevosyan, and Ya. D. Monko, VNIIEGazprom, and O. B. Braginskiy and E. B. Shlikhter, TsEMI of the USSR Academy of Sciences (Moscow): "And Ethane Off the Books...."]

[Text] A Simple Issue Has Become Complicated

The petrochemical industry is distinguished by a high degree of material-intensiveness. The proportion of raw material in the structure of expenditures on the production of the main kinds of products is 50 percent and more here. Increased requirements are placed on the quality of the raw material (in terms of purity and stability). For modern petrochemical productions they have established a long period (25-30 years) of operation and, consequently, it is necessary to have a stable supply of the corresponding hydrocarbon raw material. This raises complicated problems for the suppliers: for it is known that the period of stable extraction at petroleum and gas deposits is usually very short.

It is also worth devoting attention to the fact that the construction of a modern petrochemical complex that includes multiton production of ethylene, propylene and

products obtained on the basis of these takes approximately 10 times the amount of capital investments required for the corresponding facilities for preparing gas and a gas processing plant (GPZ). These capital investments are commensurable with the expenditures on the construction of a main gas line with a distance of 3,000-4,000 kilometers. And the time periods for constructing many large-scale facilities of the petrochemical industry are also longer. It is precisely these circumstances that cause one of the basic difficulties in providing existing and reconstructed petrochemical enterprises with such kinds of hydrocarbon raw material as petroleum casing head gas, products from the stabilization of petroleum, gas condensate, and ethane.

The raw material problem is complicated by the departmental approach, local prejudices, complicated transportation problems, the disorder in prices, and several other problems that are not so rare in economic activity. In other words, the provision of hydrocarbon raw material for enterprises of the petrochemical industry has turned out to be a considerably more difficult affair than it was thought to be at one time. People thought that it was enough "simply to allot" 5-6 percent of the petroleum raw material. But they became convinced that "to allot" was not all that simple! As a result, the petroleum and gas chemical industry is experiencing a shortage of raw material, especially in the production of the large-tonnage semimanufactured product ethylene, which is the initial product for subsequent synthesis of many kinds of polymers, ethyl alcohol, and so forth.

#### More Thorough Processing of Gas—An Important Resource

At the beginning of the development of the petrochemical industry (the end of the 1950's) it was thought that the basic kinds of hydrocarbon raw material would be: casing head petroleum gas, products from stabilization of petroleum, and gases from petroleum processing. At that time this opinion seems completely justified since the resources of the aforementioned kinds of raw material were significant, and a large proportion of them (light hydrocarbons of petroleum gas) were liquefied and tortured. The first petrochemical productions were created at existing petroleum processing plants (NPZ) or near them, and the existing transportation ties were utilized effectively enough.

At that time the gas industry began to rapidly increase the rates of extraction, and it had its own problems. The main strategic task was to extract gas and provide for its transportation through recently constructed and assimilated main gas lines to various consumers: electric power stations, industrial enterprises, and the municipal service sector. The entire system of goals of development and prices and economic incentives in the gas industry were directed toward maximum extraction of gas, and not to more thorough processing of it. The preparation of gas was introduced for practically the sole purpose of making it transportable, that is, it was the thoroughness



with which it was possible and economically justified to extract the maximum amount of propane-butane fractions which are the initial product for synthesizing many polymers.

True, at individual natural gas deposits ethane was extracted along with helium. Some of the ethane was used at chemical and petrochemical enterprises as raw material for synthesizing alcohol, ethers, and polymers, but not very much of it. The tasks of extracting ethane from natural and petroleum gases and utilizing it as a hydrocarbon raw material took so long to be resolved and coordinated that during this time, because of the development of the deposits, the initial resources had decreased significantly. There were also organizational and design mistakes when planning the ethylene installations that operate on ethane. These and a number of other circumstances also played a significant role in the "consolidation of the positions" of liquid petroleum raw material (namely benzene fractions) for obtaining petrochemical products. Ethane remained outside the balance.

Thus we repeated the "benzochemical" strategy of Japan and Western Europe, which have no hydrocarbon resources of their own and have to import and utilize liquid raw material (but it was sufficient to begin to develop the gas deposits of the North Sea for the West German chemical companies to display interest in ethane raw material).

In the future the situation with respect to hydrocarbon raw material will only be exacerbated. For the needs of the national economy for motor fuels and specialized petroleum products will increase at fairly rapid rates and the need for petrochemical and microbiological raw material at even more accelerated rates. Yet, because of the retardation of the rates of increase in the extraction of petroleum and, possibly, even at stabilization, resources for utilizing petroleum as hydrocarbon raw material will remain practically the same as they are now. There is the opinion that it will be necessary to bring in alternative (not petroleum) kinds of raw material. But a legitimate question arises: why bring in costly alternative sources if resources of valuable hydrocarbons are irreplaceably lost with the utilization of gas for energy?

#### Utilizing Hydrocarbon Raw Material Comprehensively

Our industrial hydrocarbon resources are no less impressive and even greater than those in the United States, where on a similar basis a kind of ethane era appeared and reigned supreme for more than a quarter of a century. Even now this raw material dominates there in pyrolysis production, in spite of a certain reduction in its volumes because of market considerations. In recent years, after several mistakes and interruptions, we have managed to include ethane in the raw material balance for pyrolysis

products of petrochemistry in Kazan, Shevchenko, and Novo-Kuybyshevsk, but the scale is extremely small, and its proportion in the balance does not exceed 5-6 percent.

Still the opinion is gradually beginning to prevail that it is necessary to more widely replace benzene fractions with liquid gas and ethane as a raw material for pyrolysis and for other petrochemical syntheses, that is, the opinion is growing that the resource-saving approach is the basic and decisive one. Incidentally, natural gas from gas condensate deposits in our country and natural gas that is rich in ethane contain not only ethane, but also a significant quantity of propane-butane. To utilize this gas as an energy fuel without preliminary extraction of the hydrocarbons means, as was already said, to lose valuable chemical raw material.

Here one can introduce the "mitigating circumstance" that these are not direct losses, but indirect ones, since hydrocarbons are still being used as energy fuel. But there is nothing that can justify the direct and irreversible losses of hydrocarbons when casing head gas is burned in torches, especially in Western Siberia. The need to put an end to losses of casing head gas was stated straightforwardly at the 27th CPSU Congress.

It is necessary to bring the structure of raw material for gas and petroleum chemistry in line with those capabilities that are granted to us by the resources of gas and gas condensate deposits. The use of ethane and liquefied gases is possible in several variants: by adding 20-30 percent liquefied gases to benzene fractions, which can be done in installations that are already in operation, in a number of cases without even reconstructing them; designing installations with large capacities that operate totally on gaseous kinds of raw material (ethane, ethane-propane or propane-butane mixtures). As concerns the utilization of ethane, it is necessary to provide for synchronizing the time periods for the development of deposits of ethane-containing gas and the creation of plants of processing it. And it is necessary to act decisively, right to the point of introducing legislative measures for conserving deposits if the construction of chemical plants for consumers of ethane is delayed.

Comprehensive processing of ethane-containing natural gas will make it possible to solve a number of problems. There will be prerequisites for more favorable distribution of new facilities for gas processing, the petrochemical, the chemical, and the microbiological industry. On the basis of gas processing it will be possible to create both large gas chemical complexes and relatively small specialized enterprises. It will be possible to "saddle" gas lines with flows of ethane-containing gas and thus locate relatively small installations on the routes of gas lines and at points that have sufficient energy availability and provision of labor resources as well as proximity to the consumers. This will make it possible to expand the geography of gas processing and petrochemistry and to improve the technical and economic indicators of these

branches. (One might note that the United States has experience in prolonged operation of similar installations which have shown their effectiveness.)

The ethane extracted from natural gas and also the propane, butane and heavier hydrocarbons that are obtained along with it can be used for synthesizing petrochemical products and also as motor fuels (liquid gas, compressed gas) for obtaining microbiological products. This is especially important now that the extraction of petroleum is not increasing as rapidly and is becoming more expensive.

Calculations show that obtaining ethane from gas that has already been extracted, even with the most unfavorable conditions (in gas of the northern regions the content of this component is no more than 3-4 percent) is less expensive by a factor of 1.5-3 than prospecting, developing, transporting, and processing newly extracted petroleum, and, taking into account the equivalent of light petroleum products, this advantage again increases severalfold.

When ethane and other hydrocarbons are extracted from natural gas the quality of the gas improves since it is completely purified and the ballast gases are removed (which, incidentally, prevents corrosion of pipes and other equipment). Because of this expenditures on the transportation of the gas are reduced and the possibilities of utilizing it and regulating the combustion process are improved.

Extracting hydrocarbons from natural gas (and, in a number of cases, from the mixture of natural and casing head gas) will make it possible to solve a number of social problems as well. The main social advantage will probably be produced by replacing motor fuel for carburetor engines with liquefied and compressed gas as a factor in economizing on petroleum and protecting the air in the cities.

The large gas condensate deposits of Western Kazakhstan and Western Siberia began to be utilized at the end of the last five-year plan. Each day they provide tens of thousands of tons of ethane, propane, and butane for the energy furnaces. With the existing rates of construction at facilities for extracting ethane and liquefied gases, their utilization for the needs of petrochemistry will take no less than 10-12 years. By that time the aforementioned large gas condensate deposit will have been exhausted and it will be necessary to bring in the "secondary echelons" of gas extraction for raw material, thus putting off for several more years the solution to the most important problem of raw material supply for the petrochemical and microbiological industry.

It is necessary to take advantage of these unique resources in the next few years. In our opinion, the technology of the Tomsk Chemical Plant and the Tobolsk Petrochemical Combine should be reoriented

for gas resources. Ethane containing gases from Urengoy and Yamburg and gasoline-processed gas from the central Ob' area can provide for the first ethylene productions of these enterprises.

Subsequent development of the production of ethylene and other petrochemical products is envisioned in the form of a unified regional system that combines production, pipeline transportation, processing, and consumption of these products in Tomsk, Tobolsk, Omsk, Kemerovo and Achinsk, with the possible creation of new productions on the route of the product pipeline in the southern part of Western Siberia.

Of course extracting ethane from gas is not a goal in itself. It is only part of the overall problem of comprehensive utilization of hydrocarbon raw material. The selection of concrete systems for separating gas and utilizing the ethane will be dictated by an entire set of technological, economic, and regional factors. But the advantages that can be produced for the national economy by comprehensive processing of ethane-containing gas (mainly for the conditions of Western Siberia) are now clear and indisputable. This means that this problem must be solved as quickly as possible.

#### Uniting Interest, Overcoming Barriers

In order to solve the problem of production and efficient utilization of hydrocarbon raw material it is necessary to unite the interests of a number of ministries and departments. It will be necessary to reduce the time periods for the construction of enterprises, to create new kinds of technological equipment, and to optimally combine large-scale and small installations for preparing and processing gas and gas condensate.

It is necessary to change the existing practice for evaluating residue gas (consisting of methane) and "fatty" gas (containing ethane, propane, butane, and condensate) from the standpoint of heating capabilities. With the current approach "fatty" gas is more expensive and it is more advantageous to deliver it for energy purposes than residue gas. On the price list this position is strictly fixed by the limit of heating capabilities of the gas, and when this is reduced (as a rule, as a result of extracting high-calorie components—ethane, propane, and so forth) the consumer "punishes" the supplier with an appreciable cut in pay. In essence, "fatty" gas is not only and not so much fuel gas as it is a raw material resource.

It seems that it would be correct to formulate this task of developing within a short period of time a detailed subprogram called "hydrocarbon raw material" for the comprehensive program for chemization of the national economy over the long range which has already been adopted. To this end it is necessary to create an interbranch scientific and technical center that also has capabilities of comprehensively and effectively solving the problem of more thorough processing of gas and the utilization of valuable hydrocarbons as petrochemical

and microbiological raw material and for obtaining motor fuels. The need for this approach is critical and practically follows the modern strategy of intensification of the economy.

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### **Nonstandard Equipment Creates Problems**

18200006h Novosibirsk *EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO)* in Russian No 9, Sep 87 pp 110-114

[Article by V. Ya. Gumenyuk, candidate of economic sciences, Lvov Polytechnical Institute: "Standard Problems of Nonstandard Equipment"]

[Text] The volume of production of so-called nonstandard equipment through the efforts of the consumers is unjustifiably large. Thus according to the results of an investigation of machine-building enterprises in Lvov Oblast, the proportion of nonstandard equipment in terms of value amounts to from 10 to 44 percent of the fleet of technical equipment, and in terms of quantity—from 14 to 55 percent. According to the technological plans of Giprospetsavtotrans (Lvov), the proportion of nonstandard equipment in metallurgical production ranges from 17 to 35 percent, and in painting an assembly production—from 80 to 100 percent. Moreover, the planning and manufacture of equipment continues through the forces of the client during the course of the construction or reconstruction of shops and plants, that is, in addition to that envisioned by the plan. Two-thirds of the nonstandard equipment is created by the consumer enterprises. During the past 2 decades special shops and sections for producing nonstandard equipment have appeared in almost all the medium-sized and large machine-building plants. The production of equipment for their own needs in machine building is approaching the scale of repair in instrument production.

The growth of the production of nonstandard equipment for internal needs gives rise to a number of serious problems in economics, organization, and management. In the first place, at an individual enterprise the scale of its output is not great and changes from year to year. During periods of assimilation of new products, reconstruction, and expansion of shops, the output increases significantly—sometimes by a factor of 1.5-2. These fluctuations do not create favorable conditions for better utilization of production capacities, and the sharp changes in the volume of work lead to irregular utilization of working time. It is difficult to provide production with batching items and materials in small quantities but in an extremely wide assortment.

Second, the development of technical documentation and the drawing up of estimates for nonstandard equipment increases the labor-intensiveness and time periods for technical planning of shops and plants. The manufacture of this equipment prolongs the time periods for construction or reconstruction and also the assimilation of the production capacity. The need to replace nonstandard equipment and fittings impedes the renewal of products since this equipment, as a rule, is narrowly specialized for a particular product. Moreover, significant changes in the design of an item increase the proportion of replaced nonstandard equipment and fittings.

Third, "in-kind" production of equipment impedes conducting a unified technical policy and machine building. Thus, although in all branches of machine building there are specialized institutes (bureaus, divisions) for protective and decorative coatings of metal items, we lag behind world standards here and the external appearance of items is one of the obstacles to expanding the assortment of machines, equipment, apparatus, and so forth.

The creation of intrabranch specialized associations is undoubtedly a more effective form of producing means of mechanization and automation. It becomes possible to concentrate on specialized production. With expansion of the annual output of nonstandard equipment, for example, by a factor of 4, expenditures per unit of output decrease by a factor of approximately 1.5.

The proportion of nonstandard equipment produced by specialized VPO's and enterprises can and should be increased. Thus enterprises of the Soyuztekhpromavtomatizatsiya VPO (Ministry of Machine Building for Animal Husbandry and Fire Production) produce only half of this equipment and the other half is produced in shops and sections of other enterprises of the branch. The same kinds of equipment are manufactured at many enterprises. For example, the 1984 plan envisioned the manufacture of more than 300 units of equipment for lacquer and paints at 24 enterprises of the branch, including 70 paint chambers—at 11 plants and 54 drying chambers—at six plants; and more than 400 transporters and conveyors—at 15 plants. Yet the annual branch need for means of interoperational transportation and painting equipment significantly exceeds the production capacity of the average enterprise of the Soyuztekhpromavtomatizatsiya VPO. The planning and production of many kinds of nonstandard equipment should be concentrated at specialized enterprises.

One cannot say that the possibilities of interbranch concentration and specialization of production of nonstandard equipment are unnoticed. But we think that the production of nonstandard equipment is an anachronism against the background of specialization of machine building. From practically the same standpoint managers of ministries have doubts about the prospects for the development of such production. Can one be

confident that after reconstruction and "complete" specialization of the plant in the production of painting chambers it will not end up in another ministry—the Ministry of Chemical Machine Building?

Even complete mobilization of reserves of interbranch production of nonstandard equipment will leave many problems unsolved. For example, small scientific research and planning-technological organizations that engage at the same time, say, in smelting processes or protective coating of metal items and are subordinate to various ministries will hardly be able to determine the technical policy in the corresponding productions. And when one of these organizations generates a new technological method, a barrier appears on the path of its "reproduction" in front of the branch that is capable of producing the necessary equipment in the necessary quantity. In brief, the development of interbranch specialized productions of nonstandard equipment is still a half-measure and a half-baked solution.

Cardinal measures are needed. Interbranch specialization can be regarded as an intermediate stage, a transition stage in increasing the completeness of mechanization and automation of production. The major and future direction is to increase the role of fund-forming branches of machine building and to create not individual machines but systems of machines for comprehensive mechanization and automation of production on the basis of progressive technologies. But the assimilation of complexes of technical equipment for new technologies, as distinct from individual machines, is actually not planned by the branches of machine building and is not economically stimulated.

It would be expedient to restructure the organizational-economic mechanism for forming the fleet of equipment. Its basis could be the contract of the specialized association or branch of machine building for releasing a system of machines "turnkey" during reconstruction, expansion, technical reequipment, or construction of a new plant, shop, or section. The main aspects of the contract would be the time periods for performing the work, from the technological planning to the release "turnkey" or assimilation of planned capacity, mechanization and automation of production or, say, the completeness of the system of machines. The final product of the machine-building subdivision should be the system of machines with particular consumer qualities. In world practice, including in foreign economic ties of our country, "turnkey" purchase and sales of technologies have long been accepted. The final account between the client and the contractor is settled after the practical confirmation of the technical and economic indicators of the system of machines.

The contract for the system of machines does not preclude the delivery of individual sets of equipment to the consumers. But preference should be given to deliveries of new and modernization of existing systems of

machines. The fact is that the current practice of distributing equipment among enterprises according to the principle of "a little for everyone" does not contribute to comprehensive reequipment of production. Progressive new models of equipment frequently do not fit into the fleet of machines or the old technological chain of the existing enterprises. One should plan the delivery of new or the modernization of existing systems of machines in keeping with the priority and sequence for reequipment of sections, shops, and enterprises.

The introduction of such a policy will require an organizational restructuring in the fund-forming machine building. The structure of machine building must be brought into line with the "technological tree" in the branches that consume the equipment. For the majority of branches of machine building this would mean deepening their specialization. It will be necessary, additionally, to single out new structural subdivisions in machine building. There has long been a need, for example, to form a specialized branch for producing equipment for finishing processes—applying protective and decorative coatings, assembly and testing, and preservation and packaging of items.

Specialized branches will be able to perform the entire cycle of work for creating systems of machines (searching for new technological methods, producing equipment, technological planning of shops and sections, and so forth) and be responsible for the quality of the final product under the condition of concentration of scientific research and planning work, the creation of services for supervised installation of systems of machines, and modernization, repair, and salvaging of outdated equipment.

A practical step toward the contract for systems of machines were the "Provisions Concerning Complete Sets of Technological Equipment, Technological Lines, and Means of Mechanization and Automation of Management and Control."<sup>1</sup> According to the provisions, collective deliveries include "a set of equipment, other items, and devices that make it possible to provide for obtaining the final products"—that is, a system of machines. The provisions also determine the policy for planning, manufacture, and the actual delivery and installation of equipment. But, in the first place, these provisions are being implemented far from everywhere. As one can see from an analysis of the production of nonstandard equipment, within machine building itself as the consumer of machines there have been no significant changes for the better. In the second place, although the provisions are directed toward improving technological service of the consumer enterprises, they allow an alternative to self-service in the technological planning of shops and the manufacture, installation, and adjustment of equipment. In the third place, the established policy for complete sets of equipment is complicated and requires the coordination of the Gosplan, Gossnab, State Committee for Prices of the USSR, and the supplier and consumer ministries.

The current organizational-economic mechanism for forming the fleet of equipment does not need modern requirements. It is necessary to have a reference point for its long-term development. This reference point could be the contract for a system of machines. And the accumulated experience in complete deliveries could serve as a practical basis for introducing the contract for systems of machines.

#### Footnote

1. "Sovershenstvovaniye khozyaystvennogo mekhanizma. Sbornik dokumentov" [Improvement of the Economic Mechanism. Collection of Documents], Moscow, "Ekonomika", 1980, pp 85-88.

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#### Writer Views Economic Life

18200006i Novosibirsk *EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO)* in Russian No 9, Sep 87 pp 115-142

[Continuation of story begun in EKO 7, 1987 by Georgiy Kulishkin: "Closer to the Ruble"]

[Text] 12. After showing Sergey out, Masha is transformed: there is no more lightness, nor smiles, nor pleasant voice. Walking heavily, she goes into the rush workers and stops behind them, resting her fists on the rolls of fat on her side.

"That is it!" she utters, so that there will be no way for her to turn back to him. "Today as long as this workshop is registered, you will move into the general shop."

Kolyunya freezes and looks questioningly at Fon Petya and Fedor Ivanovich.

"Ay—ay," Fon Petya thinks respectfully, "Mashenka...."

"Mashenka—who is that?" The lackluster gray eyes without any pupils fix upon him.

"I say, Mariya Ostapovna." Fon Petya's voice wavers. "How about the rush work...none?"

"What is that?..." Uncle Seva swallows the large amount of saliva which his great delight has caused to accumulate in his mouth. "The shoemaker aristocracy is kaput? Ho, ho, ha, ha, ha!... Fon Petya, welcome to our hut! Kolyunya, right, your own bench that you have broken in! Fedor, and you?"

"And I!" Fedor Ivanovich is not depressed.

They bring a cash register from the factory and place it near the counter, on the interior side of which one can see the contours of the benches outlined in spots of light, like on photographic paper. The mountains of garbage that always appear around the workplace have not been removed yet, only swept to the side, but the electricians are already running the wire to the cash register and the new receiving clerks, all four of them, are bustling around it, and from time to time, with the readiness of devoted people, they fly to carry out Mariya Ostapovna's orders. And they trample down the shop like a territory infected with the plague. They are there out of obligation and, it seems, they are trying to hold their breath.

Rita and Valentina are told that they are to go to the office.

"That pig and I," says Rita loudly, so that she can be heard even outside the shop. "She has not worked a day in her life! She has holes for eyes, there is no bottom to her belly, she would collect the scum off the last piece of dung!"

Those in the shop laugh with a feeling of doom.

But Valentina follows on the heels of Mariya Ostapovna, crying and begging to be forgiven. Not interested in what for, the new boss lady goes ahead and forgives her, but wants to be sure that Valentina is well aware of her place right at the beginning, and orders her to wash the floors right in the place where the new receiving clerks are hanging around the cash register.

They open up the workshop. True, the carpenters are still working—they are hanging the door at the entrance to the corridor through which orders have previously made their way to the masters without any obstacles; but the cash register has already begun to rattle, and one of the receiving clerks begins to call to the shop with "rush orders," and instead of an order for the work there is a copy of a receipt marked by the cash register. The receiving clerk is distinguished by her jitteriness and the tense thinness of an ill-tempered person. Her limp ears are pulled down by heavy gold earrings and there are also heavy rings on her strong, bony fingers—everything is too big for her, as if it has come from someone else's hands. Irritably taciturn, she pronounces her name barely audibly.

"Anzhelika."

Yanchik gives a sour grunt, and when she bends over the shoes he glances meaningfully at her bony rear and makes a wry face. "Forget it, old man!" Uncle Seva says with a laugh. "Who knows what they might do to you here!..."

"Oy, I do not want it!" answers Yanchik, screwing up his eyes.

But Anzhelika, unconcerned, scurries between the cash register and the shop—quick, like a needle in skillful hands. Silently she puts the shoes marked with chalk next to the masters and runs away. And while she is running she does not appear to look to either side, but always notices what has been done, picking things up along the way with the quick movements of a thief. She begins handing work out with Uncle Seva—he is the first one sitting by the entrance, and on the side of his bench for the receiving clerks there hangs an clip from a poster with the words: "Do Not Pass!"

Here Uncle Seva takes the next pair of shoes, takes the piece of paper out of them with the blue stamp printed by the cash register, and folding it, sticks his thumb through his index finger and middle finger.

"Take that...Anzhelika swindler! You carry and carry, but what do you carry...." He flips her the bird, his middle finger extended by the piece of paper.

Anzhelika looks questioningly; her mouth seems to be shriveled up permanently.

"I ask: What are you carrying?" Uncle Seva repeats, seeing red.

"Rush orders," Anzhelika rustles by.

"I do not understand this kind of rush order!" says Uncle Seva, and with a crunch shoves a copy of the receipt deep into the toe of the shoe.

Without saying anything, Anzhelika moves the shoes to Fon Petya. He spins around and flings them into the corridor:

"I do not need leftovers!"

Without a single word, as though she were pecking at something, Anzhelika picks them up and with a different manner, gives them to Fedor Ivanovich. Fedor Ivanovich does not even touch them. And he is not the only one—everyone, as though on command, stops noticing the work Anzhelika brings. And they look around, nodding in the direction of the rush repair counter, where a scandal is about to break out. A scandal is like a downpour: the first drop falls—the first irritated questions, and then—it comes....

Mariya Ostapovna stands still in the middle of the shop and slowly lifts her gaze in one direction and then the other. There are four crashing steps—and near Fedor Ivanovich, rolling her eyes and holding her head, as if she has an unbearable headache, Mariya Ostapovna asks:

"Why are you holding up the order?"

"I do not have time," answers Fedor Ivanovich meekly. "All this is also for today."

"So. Who can manage to do the rush work? Soooo," repeats Mariya Ostapovna, understanding. "Well—the worse for you. There is a 20 percent increment for rush work—it would be like a gift. So, Anzhelika, today there will be no rush work, take it for the day after tomorrow."

"And this?..."

"Return it and make excuses."

"Out there," Anzhelika whispers, "they are shouting: It was a shop where things were done rapidly and now who knows what the hell has happened!"

"And you explain," Mariya Ostapovna answers unbendingly, "that they stole from them when they did things quickly. And we have imposed order."

And pressing her temples with her fingers, as if holding a mask of suffering on her face, Mariya Ostapovna goes toward her office.

"Hey, boss lady!" Uncle Seva shouts. "With the order you have imposed, we have not had any dinner, will we not earn enough for supper either?"

Mariya Ostapovna does not consider it necessary to respond.

"Are you testing out your patience on us?" Uncle Seva says with venom in his voice. "Well, go ahead! We will see who can last longer!"

Mariya Ostapovna is "patient" for 2 days. On the morning of the third day Anzhelika decides to "liven up the old man." She gives the receipts from the day before and the day before that to the clients and takes money for them without putting anything into the cash register. She writes the total down with her own hand on special sheets of paper which the masters are supposed to keep at their benches until the accounts are settled, and then, when the masters have received their money, Anzhelika gathers the sheets to report to Mariya Ostapovna.

"Oh, oh!" says Uncle Seva. "Not a kopeck will make it past that one in the office!"

He says cheerfully: "I can smell a ruble—how better to improve the mood of the shoemaker?" And everyone in the shop ceases being irritated by the thinness and taciturn behavior of Anzhelika, and her gloomy efficiency in work is regarded as an unquestionable merit.

The day passes by unnoticed with the customary hard work. The first to get paid, as is the custom, is Uncle Seva. At his bench Anzhelika quickly counts out the right sum from her pocket cash supply and quickly crosses out the total on Uncle Seva's sheet. After counting out Uncle Seva's share right down to the kopeck, she goes on to Fon Petya.

"Swindler, did you not make a mistake?" Uncle Seva asks after transferring the sum he has received from one pile to another twice.

Anzhelika turns to him with a dry, uncomprehending gaze.

"I do not come here to make eyes at you!" shouts Uncle Seva. "Well, count it!"

"Well?" Her lips barely parting, Anzhelika sorts through the rubles and change.

And Uncle Seva understands. Choking, he starts making confused sounds.

"I?! You?! That old bag gets 60 percent?! You and your Ostap-Benderovna! Well!" He throws the bills and pieces of change in her face. "And I want you to run this through the cash register this second! Everything I did!"

Anzhelika gathers up the money; Uncle Seva's shouting has caused people outside the window at the bus stop to look in.

"Dumb creatures! Have you found a bunch of suckers?! Hit that cash register! Cash on the barrel!"

Mariya Ostapovna does not stick her nose out of her office, apparently fearing for her health. Driven by the pitiless fingers of Anzhelika, the cash register shudders as though the coins are being chewed up by steel jaws.

Fedor Ivanovich gets up with his list of "under the counter" work, and after him, handsome and resolute, comes Fon Petya. Kolyunya follows them with his quick, flickering glance. Dmitriy stands up—and Kolyunya has already caught up and is walking with him shoulder to shoulder. From behind, laughing and pulling up his pants, walks Yanchik.

"Everybody line up!" he laughs at the cash register. "We are exchanging old women for receipts! If you told somebody, they would not believe you!"

And he slaps Uncle Seva on the shoulder, leaving with his file of receipts:

"Greetings, Chekist!"

13. There is neither a tribune nor a presidium, but the meeting is clearly divided into the "masses" and the management agency. The workers are at their benches, and lined up at the exit, all with the same expression of irreconcilability on their faces, are the receiving clerks, Mariya Ostapovna, Annushka Prikhodka, and Vera Pavlovna. They are standing there as though they are prepared to use their own bodies to lock the workers in the shop once and for all.

Vera Pavlovna, making gestures as though she were going to strike Uncle Seva, explains:

"We know who it is here who is used to lining his pocket, for whom the state plan is a heavy burden! We know who is stirring up the water here! But we will not allow you to pervert our people, somehow we will cut off your appetite!"

Annushka Prikhodka looks at the workers with pitying eyes out from behind Vera Pavlovna's shoulder—as though she is looking at naughty children and finds it painful to punish them but has to for their own good.

"We are all living people," Vera Pavlovna lowers her voice so that those present would get a complete sense of the intimacy of what she is about to say. "We understand that in life nobody goes home without money. But we must also know moderation. Do not forget moderation!" Vera Pavlovna repeats significantly. Drops of fatty sweat hang from her mustache, her lipstick is smeared, deepening the wrinkles and making the entryway to her large mouth flaccid, as though she frequently and for long periods of time opened it wider than nature intended for it to go.

"The party and the government," Vera Pavlovna moves easily from mentioning treasured professional secrets to phrases that are global and infallible, "are waging an uncompromising battle against drunkenness and alcoholism. And at a state enterprise that has been entrusted to us, we will not allow certain people to swill vodka like pigs day after day! To such indecent conduct," Vera Pavlovna brandishes high, to the ceiling, the document which registers Uncle Seva's "Presence at the Workplace in an Intoxicated Condition"—"we shall respond fully in keeping with the demands of the time! Nobody will protect you!" Vera Pavlovna's gaze penetrates Annushka like an injection of some stimulant. And Annushka begins to nod her head in assent. "Nobody will stand up for you! The order firing you for drunkenness has been signed and approved. And in the future," Vera Pavlovna passes over the faces of the workers with a sweeping glance, like with a broom, "in the future we shall act just as resolutely! What does it mean, Mariya Ostapovna, that you cannot provide explanations regarding collective absence? What are all these funerals? For whom are they mourning—for the slob who caused all the workshop to disintegrate? I want a detailed report today! And, think about it, Mariya Ostapovna, if one of the absentees has a fatal effect on the collective, we have every right to fire anyone for absenteeism! And bonuses," this was directed to Annushka and sounded like an order, "take them away right down to the last one!"

Yanchik turns his head and snorts.

"Yes, yes," Vera Pavlovna looks at him. "Everyone!"

"And why not just drive everybody out? You have every right...."

"You know what, Yanya,..." like the steam valve on a teakettle, Vera Pavlovna begins to hiss and sputter.

"No, I do not! Who will slave for you after you have driven everybody away?"

Kolyunya's face convincingly expresses repentance, but out of the corner of his eye, cast in Dmitriy's direction, there is a sly, sarcastic sparkle, as if to say: "Yanchik really stumped her, eh?" And also there is the expression: "Yanchik is really a brave one! Let him, let him stick his neck out, only him and not us..."

"We do not need to get rid of everybody," Vera Pavlovna says lightly. "Just the wise guys. But Ivan Mefodiyevich had to light a fire under the obstinate ones, not the ones like you!"

"Yes!" Yanchik looks up with hatred. "You have become the big bosses! A repair worker has nowhere to go but to you, there is nowhere in the city! You have taken everything into your own hands!"

"And would you like it to be as it was 20 years ago, with workshop upon workshop, and you could run from an evil boss to a good one?..."

"Yes, and I did not run anywhere. You were the one who ran away as a receiving clerk for 5 rubles a day and left me, with Yani..."

Vera Pavlovna's large rear end, strong as a horse's, jerks as if somebody has put the lash to it.

"I?..." she says as though breathing fire. "Yes, I remember, I remember everything! And yesterday when Ritka ran in to ask you to come to the new shop I thought—our Yanya, he is a company man, I will put in a word for him with Ivan Mefodiyevich.... I see that I was too hasty. I see that Yanya does not look out for his own, the only thing that is his own is his pocketbook!"

In the evening in the restaurant Fedor Ivanovich was repeating incessantly:

"Think about how we can rescue Seva!"

"Beaten again!" Kolyunya could not hold back. "How can you rescue him when everything is legal!?"

"Shut up, you legal expert!" Yanchik made a wry face.

"No," Kolyunya grabbed hold of him. "You tell me: Is there a law that says you may not drink at work or not!?"

"And to take 60 percent from us—is there such a law? Do they themselves do everything according to the law?!"

"How to divide up something that is stolen—there are no laws about that. Here it is a matter of who is stronger. But as long as they are our superiors, they will be stronger than us. So if they give you 40 percent, you take it without saying anything. Forty is more than 12."

"And if they drive Seva out—should we also just sit silently?" asks Fedor Ivanovich.

"Seva will use his head the next time! They say if you are not able to drink it is like poison to your system!"

"And are you able to?"

"I? I am learning."

"Right, Kolyunya!" Uncle Seva shouts. He has long been fighting the battle against alcoholism. "Do not stick up for me. But remember, you wise asses, that nobody will stick up for you either!"

"Oh, I am frightened! I have looked out after myself all my life. I have always tried to think before I speak! I do not like to betray my own people either, but why do things come out in such a way that they are over us and we are not working for ourselves? And there are people over them also.... And it all has to do with expenditures."

"Expenditures?..." Uncle Seva shouts: "And how? There is no way to save up enough for their expenditures!"

Yanchik tugs on Uncle Seva's sleeve, reminding him that they are not alone, and says:

"And 30 percent is also more than 12. Tomorrow they will leave us with 30—do you agree?"

"And 20 is also more," says Fedor Ivanovich with bitter irony. "And with custom sewing, 12 percent is more when it is under the counter than when it is above-board. They say that they are not taking income tax from it.... Because of this kind of managerial generosity, I changed from making new shoes to applying patches, and how much farther can you go than that?..."

"I cannot agree!" Uncle Seva jerks, tipping over his glass.

"And when I said that we should not agree to drop from 70 to 50, what were you drinking?"

"I was drinking, Fedya, I was drinking. For a person who has gotten used to money, there is no way to do without it."

"And them?" Fedor Ivanovich objects. "Will they be able to last long on subsistence wages?"

"They...will find a way," says Kolyunya. "They have their hands on the goods, and they also have in their hands the rates, the receipt books, and our work places. They will find a way!"



"But they will not give us anything! They will watch our every step!"

"Uh-huh. And there is no need to look after us. I have asked you to dinner—come along, dear!..."

"Drink up or we will never get out of here!"

"The slime broke their promise...."

"Here is another thing," says Fon Petya, screwing up his right eye and raising his eyebrow over the left one—indicating that his thought would be more complex than the ones expressed previously. "Let us say that we are all doing the legal work. Month after month. Our output has increased sharply, our earnings have gone up. One asks, who will allow us to receive such wages for very long? There will be evaluations again and they will be cut."

"Yeees...."

"All right, let us think about Seva from the beginning!"

"Concerning Seva I figure it this way," says Yanchik. "Tomorrow we all get together and go to Mefodiyevich. We will say: either this or that!"

"What—either?" Fon Petya bites like a fish on a hook.

"Or we will bring everything out into the open! We will tell everything they are doing, lock, stock and barrel!"

"To whom?" says Fon Petya, his eyes smiling.

"We will go to the OBKhS [Division for Fighting Against Theft of Socialist Property and Speculation]!"

"You child, Yanya, you child! It is just like for a mouse, a cat is the most terrible beast. They will not be very afraid of your OBKhS! And they have been waiting a long time for your disclosures!"

"We will write to the procurator's office, to the trade unions!"

"About what?" Fon Petya asks, as usual, as though perplexed. "About percentages? You have forgotten for a minute that when it comes to percentages we are not the victims but accomplices. That is in the first place. And in the second place, our bosses have prepared for such an event a tried and very elegant answer: they will say we are imposing order, we are eliminating work without receipts, but the moneygrubbers, of course, are not satisfied. Or shall we write to them that old drunken Seva has been driven out? They will just get praised for that."

Yanchik shows vexation in his eyes.

"He does not want a big stink either!" he mutters, so as not to give in altogether.

"Well, really!..." Fon Petya laughs at this. And he straightens out his hair—as though patting himself on the back for being so smart.

"He does not want a stink," Kolyunya answers Yanchik without the mockery. "But he is not afraid of the fuss for his own sake. And we are not actually going there to talk about Seva, about his fate."

"Well. And what do you suggest?"

"I suggest that we ask. Quietly. Nice and meek...."

Everyone is silent for a long time.

"Of course!" Dmitriy suddenly exclaims. "Then they will never get the better of us!"

"Oooh—oooh!" Uncle Seva stops snoring and wakes up for a minute.

"What is our goal?" says Dmitriy. "They will not let go of 10 percent of what they have stolen? They are bigger bandits than we are, and they have everything in their hands. But if we dig in our heels and work honestly—then we are stronger!"

"My student, my pride!"

"Get out of here!" Dmitriy waves Kolyunya away with his hand. "Let us say that we get our 50 percent—then what? Will these insatiable pigs treat us right after that? No, no way! We have to live on our wages and support them too! If they start getting skinny they will understand who is feeding whom! And your Mefodiyevich is so unapproachable only because he has cleaned everybody out!"

"A brave tailor!" Fon Petya tries to get Dmitriy to laugh too. "But have you tried to obtain satisfaction from him?..."

"But why do we have to break through and find a way out? We are the working class! It is not the position of the boss to spread slander! Themselves! We will change the whole game—and just watch them! Just think: we ourselves do not steal and we do not allow them to steal anything—everything will return to us! But when we steal for them we think that we are stealing from somebody else but we are stealing from ourselves!"

"That is right," says Fon Petya slyly. "But there are so many of us that by the time what is yours is returned to you.... No, it is better to get it right away."

"Better?..." says Yanchik, thoughtfully removing the soft part of a slice of bread. "It will not turn out better. We have sunk to the position of beasts of burden, and there is lawlessness everywhere. Dimych is right: we are not

doing our work—we must pull their tails! And I would sacrifice my under-the-counter work for that satisfaction! Well? What do you think?"

"Whether you want to or not, this is what is necessary," says Fedor Ivanovich.

"Shall we do it?" Dmitriy asks exultantly and at the same time challenges them.

"We could try," says Fon Petya. "Kolyunya, and you?"

"Where my student goes, there go I!"

"Well, look!..." Uncle Seva taps on the table with his finger.

"I—look! Do you see—the issue."

"And tomorrow—to Mefodiyevich! We will not abandon Seva!" Yanchik pounds his fist.

"Right!" says Dmitriy. "And also, starting tomorrow morning—prohibition!"

Kolyunya groans and smacks his lips.

"And every one of us who is drunk," Dmitriy throws out at him, "is an enemy to our cause!"

"We shall see," Kolyunya mumbles. "Life will show us."

"It will not show us anything," says Fedor Ivanovich. "We must stop drinking."

14. "A message for you, boss!" His grandmother seems to have an obsession with the word "boss"! In all ways—both respectfully and tenderly, but more frequently—with bitterness. "The girls, probably...."

"What girls are there, bah!"

"And in the night when you disappear is it not to go after girls?" The woman has not lost control of her capacities, she remembers something. "Here! I wanted to accept it myself, but there is a surprise written on this. It is your business, I thought, so you can figure it out."

Dmitriy takes the message. Everything rushes back to him. On the envelope: "Dimych, this is a surprise, open it when you are alone. Sergey."

A shiver runs up and down his back: Sergey!...

"All right," he thinks, "the old woman does not know about Sergey. With her heart she would...."

The next morning, on the way back from the post office, Dmitriy tears open the envelope, which is made of fancy acorn-colored paper. A box of candy? Candy—from Sergey?... It is a little terrifying.

He tears off the ribbon and looks inside and—he freezes on the spot. After standing there for a while, he looks around. "There has never been such a thing," he keeps saying like a broken record. "Never before...."

On top of the box is a letter. Without looking there anymore, and afraid that one of the passersby will glance his way, he slips one finger at a time underneath the letter, gropes through the sheets of paper and pulls something out. The lid of the box snaps down after he has removed his fingers, biting a sheet of paper toothlessly; it makes a hushing sound.

"Dimych, I spent several years of my life and the remainder of my conscience on this. Take it, you should not have to waste your years and your conscience on this."

Having read the letter over twice, Dmitriy sticks the package under his sweater and squeezes it to his stomach with his two hands. But this is not enough. He himself has to hide somewhere. He turns into an alley and then a little lane that goes obliquely along the shore, and he runs to the river. There is not a soul near the footbridge. Dmitriy rushes up and down under the bridge, and makes his way deeper into the area where the shrubbery joins the shore. It is no problem that it is all dirty everywhere, the main thing is to get farther away.

His heart is beating with a deafening roar. Five more packages—completely untouched, flat, apparently hard, like ingots.

"Years—in this?..." Disturbed, he touches the largest of the packages. The hundred-ruble note is smooth, but with grains that are pleasant to touch, like kidskin. Dmitriy has always known that money is capable of turning into something necessary and desirable. But it could also be somebody's life, their conscience.... His grandmother has the habit of measuring prices in terms of her pension, in terms of her 62 rubles. If something costs, for example, 90 rubles, she says: "We could live for a month and a half on that!..."

"Yes, we could live.... And how many of Grandmother's months are here in a box? A packet of hundred-ruble notes. And in a packet—100? 100 on top of 100—10,000!..."

It is as though the ingot suddenly becomes more compact and heavier in his hand. "And in those four? Twenty-five times 100 times 4.... And how much more...."

Dmitriy picks up a stick and, writing in the sand, begins to figure it out. The result is about 330 months or 27.5 years.

"Yes, years, actually years. And they say that it is contemptible stuff. For whom? For the person who has not worked, who has taken from the people about whom he does not give a damn?"

Over his calculations he calms down and begins to fantasize about what he will spend this mass of money on. Modernize the house? That would not hurt. But that does not attract Dmitriy. Buy a car? He sighs at this thought. Could it be possible? He has been given a car! Not those boxes on wheels, but a car! But, after all, Sergey has actually given him more than one car, many more!... A gift? Can the dead really give gifts?..."

Some kind of superstitious feeling forces him to hide the money as quickly as he can. The pockets of his pants are bulging in a telling way and there is nothing left for him to do but move it to his breast pockets and his vest. While he is hiding it, the thought strikes him that he will not be able to buy anything, because how will he be able to explain the appearance of this money to his grandmother?! He will have to put it in with the money he is hiding every day. Yes, in the shed, behind the gray, rotting boards he will hide money from his grandmother. He will hide it so as not to have to ask for it, because to get an extra ruble out of his grandmother...hah! A ruble! And 8 rubles for one visit to the sauna?! But that is not the only reason why he hides it. His grandmother sees nothing wrong with the fact that he brings money home every day. "Additional earnings"—she says. And she is happy with 2-3 rubles. Five rubles put her into rapture, but if she were to receive 10 or more rubles for several days in a row she would not be able to sleep at night. And what would be left for Dmitriy? He gives her just enough to make her happy without frightening her.

And one more little detail. Some 6 months ago, having swindled his grandmother out of a ruble, Dmitriy diligently worked with his imagination to find some sort of pleasure on which to spend his wealth. And it seemed that if he had not one ruble, but 10 of them, his happiness would increase tenfold. But here, behind the rotten board, are hundreds, and he does not feel anything except alarm and greed: after all, some day his grandmother will find these hundreds; with her keenness and her good eye—she will inevitably find them. And then he will have to hide and evade....

And if his grandmother were to find thousands?... Again, he becomes terrified and all he wants to do is remove the money from his person as quickly as possible and hide it as far away as possible.

"Stop! And the package? What shall I tell Grandmother? What did they send me—candy? Yes, buy candy."

"Soooo," the director looks at them as they pass the door and rests his gaze on Uncle Seva, who is shaking all over (on the streetcar he had even dropped the change he had received from his ticket). "Well, come in and sit down. They say there is no truth in your legs."

They mark time a little longer, but then Kolyunya, always emphasizing his individuality, with a great deal of effort drops onto the first chair at the entry, and everyone understands that the one to sit down next would be the closest to the director. They hurry in, bumping and crowding each other.

They sit down. It is quiet. One can hear how Yanchik's homemade leather jacket makes noise as he breathes. Dmitriy is the first to see the director. Large, carefully washed hands placed one on top of the other, calm. A large, calm face. Hair that is thinning, but coarse and resilient, like bristles; salt and pepper—gray to the point of being pure silver, and darker—lead-like. The color of the eyes is close to that of the dark locks—cold, knowing exactly how these subordinates sitting on their remote chairs work, what attitudes are now penetrating their souls.

"I am listening," he says, as dispassionate as a judge who is allowing a condemned man his last words, knowing ahead of time what he will say and what will be the decision of the judge. These two words, and the terrifying power and strength belonging to this person, is only hinted at.

The brigade becomes even more quiet. Dmitriy looks at his friends. Yanchik, who combed his hair in a hurry, a bit of fluff having settled on his shaggy head, shoves his battered hands, which have never been completely clean, up into his sleeves; Fon Petya wants to smooth out his hair, but all he does is twitch and the perspiration on his forehead becomes more and more noticeable; Kolyunya has slouched into a heap with his injured leg very much in evidence, on which, like on a hanger, his trousers hang with the dirt sticking to them; Uncle Seva, whose hands are shaking so that they look like those of a ham operator using the signal key, squeezes himself together, hiding guiltily behind Fedor Ivanovich....

Are these the people Dmitriy knows in the shop? Nobody is even dressed so that it would appear that he is a master who works with very, very few days off for 10 or 12 hours a day. The traces of this work are literally on each of them. But the abundance? It is the director who exudes abundance. Those same fluids of abundance have dried up in Sergey as well....

But was it his thousands and his years that he had sent to Dmitriy....

"Ivan Mefodiyevich," Fedor Ivanovich starts to speak in a voice that is not at all his own. "We are here about Vsevolod."

The director listens.

"Why are you firing him?"

"Why? Or for what specific reason?"

"We know the specific reason: Mariya does not like him."

"I am not very interested in Mariya's tastes. Was he drunk at work? Yes or no?"

"What can we say?"

"There! You yourselves confirm that sharp measures are needed."

"Drinking—this is the catch!" Fedor Ivanovich's voice has become firmer.

"And it would be possible to write up anyone," Yanchik cries out in despair. "He is the first to say this is what for!"

The director's gaze shows that he is paying attention.

"So," he says after a pause. "Let us figure this out."

And he pushes a button:

"Sasha, send Vera Pavlovna to me and also Prikhodko. And tell Prikhodko to get hold of any members of the factory committee who are in the factory."

Those who have been called appear immediately—so quickly that one wonders whether they were gathered together beforehand. But the blunder is theirs alone, for Ivan Mefodiyevich plays his role irreproachably.

"Any," he addresses Prikhodko in a nagging way. "Did the factory committee approve the order to fire Petrov?"

"Yes!" she blurts out, like a poor actress who doesn't wait for her partner's lines. "Here are the minutes," she lays a piece of paper under the director's hand.

"So," says Ivan Mefodiyevich with a castigating insult. "You have the minutes in order! And did you speak with the person? Did you straighten the situation out right in the collective?"

"But.... Ivan Mefodiyevich, you are the one.... And Vera Pavlovna...."

"What? What? What is this?"

"I wish to say that at a time like this...the height of the struggle against drunkenness...."

"Remember for the rest of your life: there will never be a time when we will take a formalistic attitude toward people! The more so toward workers! Why do you think I have a trade union leader in the factory? So that people will understand the actions of the administration. And these comrades here come and ask 'what and why?'"

"Ivan Mefodiyevich, I...."

"I do not need your justifications! You have committed the grossest error in your work!"

Because of her young age it is difficult for Annushka, without preparation, "off the top of her head" to master the role of the "guilty party." She becomes confused and starts blinking. Vera Pavlovna tries to rescue her.

"I am the guilty one here. But, Ivan Mefodiyevich, keep the situation in mind. Sergey left the shop in an extremely confused state. The collective—I am not afraid to use this word—had disintegrated!"

"It is very good that you recognize your mistake. But please do not try to correct them at the expense of human destinies! Drunkenness did not come to our factory yesterday and we will not be able to eradicate it in a single day!"

"Ivan Mefodiyevich, look at this person! He is a confirmed alcoholic!"

"So what? Are we supposed to persecute him? Where did he become an alcoholic—was it not here? Let us save this comrade. Perhaps there would be some point in sending him for treatment. Yes, compulsory treatment. We have been given such rights."

Upon hearing "compulsory," Uncle Seva shudders and shrivels up, restraining his shaking.

"Whatever we do, Ivan Mefodiyevich, we cannot leave him in the shop where there is loose money."

"And do you not have any other alternatives? Transfer him to the shop or to the factory. Here there are no clients and nobody to take a ruble from."

"You are right, Ivan Mefodiyevich! You see, we never thought of that...."

"Think about it, people are entrusted to you! We shall leave it at that for now. But if we see him drunk again, we will send him for treatment. And you, Vera Pavlovna, listen to this: there will be no punishments for the comrades because they came here today. Comrades, we have corrected our mistake, and we thank you for that!"

They pass the corridor, turn the corridor, and only after that does Fon Petya, rejoicing in the fact that the danger had passed, start talking excitedly:

"You see—we were not afraid, and it worked out! And we defended Seva! And it is right that we did not try to threaten them—in a good way...."

"Yes, you were the one who defended him!" Yanchik bursts out. "The great protector!"

Uncle Seva, as though running away, in tiny, very quick steps, begins to mince across the passageway—the shortest path to his "little glass," where he pours some beer and then heads for the wine and vodka shop.

Right behind him, Kolyunya and Fon Petya go to get a table, Yanchik stands in line for beer, and Uncle Seva and Fedor Ivanovich are already bringing some vodka to the table.

"We have just started a war," says Dmitriy right behind them. "And you want to get loaded!..."

"It is necessary...." Yanchik answers for all of them, sticking his head out guiltily. "It is good for the nerves."

"There will be more situations to make you nervous. But once you have gotten drunk, you might as well throw down your weapons and give up!"

They listen to Dmitriy and, judging from everything, they agree. But Uncle Seva's yellow teeth have already pulled the cork from the bottle and, his lips smacking, it is being poured into the glasses. Kolyunya, with a base, guilty look at Dmitriy, raises the glass, and without saying a word, puts his lips to it.

"Nooo, brothers," says Uncle Seva, in a whisper, like a schoolboy who has just experienced a dressing-down. "When he yelled—'Compulsory!'—I cowered. I was so frightened—what good is 60 percent there, I would give 200 percent!"

But after the second glass Uncle Seva is himself again, and now he will speak with the director!

"What?" he proves his point to Fon Petya. "And I say: He is not up to that! It is not because of his courage that he laid it all on Anka: he knows—do not touch Seva! Seva...."

Fon Petya smiles in his beard and pokes Kolyunya with his elbow.

"Yes, yes!" he responds. "And I say: God let our calves eat the wolf!..."

"Whaat? We should go to him and tell him who he is!" Uncle Seva is getting thoroughly drunk.

Yanchik, helping himself to the beer, says to Fedor Ivanovich:

"And what about him: He does not want any complaints against his comrades! Comrades, we have corrected our mistake! Mefodiy has set things straight!"

"No, he wrapped us around his finger. He did things his own way and there was nothing we could do."

"Get out of here!" Uncle Seva breaks away from Fon Petya's arms. "Now I can scorn everything, no percentages! And you...and you! You—prostitutes! You are after your 40 percent...ooh—ooh!"

Fon Petya pours him a glass and gives it to him to calm him down.

"But everyone has already received 60 percent and we are the last," he says to Fedor Ivanovich, clearly inviting him to think about it.

"Personally, I will not accept it. I cannot. Sixty, when we agreed to it, will not last long. The time is soon coming when 70 and 80 will come jumping by like on a horse."

"But I think," says Kolyunya, "that we must be clever, we must use our heads."

"In principle we must!," Dmitriy interrupts him. "Everyone on net earnings!"

"There!" says Fedor Ivanovich. "There is a sober head! It is a pity that there is only one among us."

15. Mariya Ostapovna's painfully high pace disappears without a trace and a wealth of healthy relations takes its place. With the energy of a hungry she-wolf, she ransacks the workshop, making sure that not a single kopeck leaks through to the workers. Under no pretext can there be any clients in the shop, and God save them if they call a master into the receiving room!

"This is a workshop, not a lobby!" Mariya Ostapovna repeats.

But the path to her office becomes busier day by day. Mariya Ostapovna fills out the orders with her own hand—down to the most meager minimum. Kolyunya pastes an order with a sample of her signature on the wall. Recognizing her hand, he mutters:

"Mmmm! This little pair can sit here for a while until the owner comes. I will find out how much she has actually taken him for!"

This way of doing things makes its way throughout the shop. They will not repair the shoes, and if something is done it is not what needs to be done, and if it is what needs to be done, it is not done right. Or they simply stuff them in their jackets on their dinner break and shove them into a garbage can on the street.

The dirty tricks spread like wildfire, and affect all the footwear in the shop. Fon Petya is enthusiastic about the sabotage. He remembers the "crunch" that was fashionable before the war....

One day a worn-out, middle-aged teacher breaks into the shop all in tears. A monstrous mashing sound accompanies her every step.

"What have you done to me? What for?" she sobs.

"Lady," Fon Petya is persuading her. "This is leather!"

"What kind of leather?"

"Good leather. It always squeaks."

"Squeaks? You call this squeaking?"

"And the louder the better," Kolyunya joins in.

"You...are you mocking me? If you do not replace them for me, I will throw them away right here and leave barefoot!"

"Come over here, please!" Fedor Ivanovich calls her. "Sit down and I will fix them."

Fedor Ivanovich does not have bad intentions.

"I cannot," he justifies himself. "My hands will not cooperate."

And he does not cackle vengefully concerning the scandals in the receiving room. Once he says:

"What have we come to!..."

And like a child offended to the point of tears he bites his lips and turns away.

Nastenka now comes up to the window to chat with Dmitriy. And she is followed by Mariya Ostapovna.

"Loafing, loafing!"—this is a tested method of Mariya Ostapovna: she can pour boorishness over a person like mud. "What is there to look at here? A menagerie or something?"

With her young, unforgivably beautiful eyes, Nastenka goes over her dusty figure and says:

"Not a menagerie. But there is one swine."

Mariya Ostapovna—the lenses almost flying out of her glasses—slams the window down in front of her and yanks the unyielding latch.

"And are we supposed to suffocate?" Dmitriy gets up.

"You will not suffocate!"

"Have you ever seen such a manager?! Go into your office and slam the windows." Dmitriy crowds her with his shoulder.

"You! Do not get familiar with me!" Mariya Ostapovna leaves.

"And you do not get familiar with me," responds Dmitriy, and, in order to make his boss madder than ever before, he continues the interrupted conversation with Nastenka.

"And what did your warden want?"

"Oh, her! My warden is similar to your boss. I need to look for an apartment. They gave me an address. Shall we go together?"

Her cheeks shaking furiously, Mariya Ostapovna pushes in between them:

"You are at work, not at a young people's gathering!"

"The work day is 8 hours. But I sit here for 10."

"Nobody forces you to work overtime!"

"Is that right?" Dmitriy exclaims, like somebody who has made a discovery. "Why are we sitting here like we were tied down?"

"Do not sit down!" Mariya Ostapovna rushes out of the shop. "But do what you were supposed to do for me the way it is supposed to be done!" she shouts threateningly from the corridor.

It is as though Yanchik's eyes are opened as well:

"What does it mean to habitually break your back!" he says in amazement. "They have increased our output to two norms, we have sat around till our butts are sore and we are still sitting! Why are we waiting to have the rates cut again?"

"No," Fedor Ivanovich starts to laugh. "We are trying to get Mashka thrown out!"

"But we must have something to eat!"

"There is nobody in the shop and it is as though we have all been keeping busy working on the slipper," says Kolyunya.

"But she needs output too," Fon Petya leads him along in his tone. "Achieve the plan and then dance around at the level you have reached. If you think about it, all of our interests coincide with hers. We could divide up the percentages...."

With knitted brows, Mariya Ostapovna resolutely enters the shop, measures the window with a tape measure, and then leaves.

"She has already thought of something!..." Yanchik says maliciously.

"We should also think something up," says Kolyunya. "We must stay one step ahead of her...."

About 2 hours later, smiling politely, Semen Ageevich comes into the shop. He is the factory carpenter, a dry, lively pensioner with a happy face and hands that are constantly busy. He has with him a box of instruments and a sheet of roofing iron all filled with holes like a food grater.

"Hi, guys!"

"Hello, Ageich! What did you bring us?"

"A rush order. I am supposed to put everything aside and help you. Come help!" he calls Dmitriy. "There are sharp edges, do not hurt yourself, look! So, we will measure for the window.... Is it too big?" Ageich does not understand why Dmitriy will not put the sheet in the frame. "If it is too big, we will cut it off."

"Ageich," Fedor Ivanovich comes up. "What have you dragged in here?"

"For some reason it is an emergency, in order to provide for safety...."

"That is right, Ageich!" Kolyunya shakes his head. "Are you going to seal us in for our safety?"

"Maybe it is not supposed to go here? Ostapovna!" he shouts. "Is this the window?"

"It is. Break it."

"But the boys here...."

"Who do you take orders from—the boys or the director?"

"No, you work it out with them, I am a little person."

"Break it! Or should I call the director?"

"What are you doing, Masha...." Yanchik says. "It is easier for you!"

"In my shop everything will be the way I think it should be. If somebody does not like it, let them turn in their resignation!"

"Mariya Ostapovna, Mariya!" Anzhelika whispers loudly from behind the curtains on the door. "An inspection!..."

In the receiving room Petr Sidorovich, accompanied by Vera Pavlovna, stops next to the woman who, shouting "When?! When?!" is waving the receipts in front of Valentina's nose.

"What has happened to you? Calm down, please, let us figure this out!"

"You figure it out!" an old man with a bagful of shoes shouts out from the waiting line.

"But what are your problems?" Petr Sidorovich says, ready to look into it all.

"We had a workshop! You tore it apart and it is no more!"

"What do you mean?"

"The fact that the masters used to sit here and work, and now there is an old owl at the cash register to answer about what they are not doing and why!"

"You offend me!" Anzhelika shouts. "This is not your private store!"

"Actually, you talk to me, you would be a worthless broom to the master of a private store!"

"To begin with," they prompt from the waiting line, "a store owner would not take them at all. Three reception clerks and nothing but scandals and excuses!"

"Precisely!"

"When we dealt directly with the masters they would be sensitive to our moods and treat us like people!..."

"There was neither a lot of talk nor a lot of paperwork!"

"And the money went in their pockets!" Vera Pavlovna speaks up. "You, comrades," she says condescendingly, as if in response to something hopelessly naive, "should recall the NEP!"

"We remember the NEP, lady!" shouts the man with the bag. "Where you most likely received favors from the leadership for covering up disgraces!"

"I am the head engineer...."

"Now, now! And you, dear lady, should be selling fish! That is exactly the place for you!"

"And I," says a man of about 50, dressed youthfully in jeans and a jacket, "had my own master here. He knew what I wanted, and I knew what he could do. Now you throw everything in a heap.... Why?"

"You greeted your master with rubles," shouts Vera Pavlovna, not yet recovered from the insult caused by the old man with the shopping bag. "You perverted him!"

"And you have locked him up, so that we will greet you with rubles...."

"How dare you? To say such a thing...."

"All one has to do is look at you."

With an expression of holy terror on her pinched face, Mariya Ostapovna moves toward Vera Pavlovna's shoulder:

"We will call the police, we will call the police!"

"Stop!" says Petr Sidorovich through his teeth, enunciating clearly. Mariya Ostapovna bites her tongue. And this is so unexpected for Vera Pavlovna that she even sits down.

"We shall take measures...."

"What measures?!" says Petr Sidorovich. "What measures?... Serve these people immediately, immediately!"

"Serve them now!" Vera Pavlovna orders Mariya Ostapovna.

"Serve everyone immediately!" Mariya Ostapovna orders the receiving clerks.

In the waiting line they begin to laugh maliciously. Petr Sidorovich looks at the woman manager with hatred:

"Let us go!"

And he goes to the workers' half, stooping and understanding that he is not the last nor the first in a long chief of managers whose zeal has confused simple daily affairs and distorted them.

"Petr Sidorovich," Vera Pavlovna walks backward so she can look him in the face, "we had to put a stop to work without receipts. When you become familiar with the planning indicators of the shop you will see that we have accelerated."

"You can twist things around so that you can call this acceleration?"

"But...but we...."

"Hello!" says Petr Sidorovich in the shop.

He is answered with something unintelligible. On people's faces is the unspoken question: Who else has she brought to oppress us?...

"These are all the workers of the shop?"

Vera Pavlovna with a glance redirects the question to Mariya Ostapovna. "All!" she reports. "We have taken up discipline in the strictest way, and while previously my records...."

"YOU do not have workers! And the workers will never be YOURS!"

"Oh, excuse me!... That is simply a manner of speaking...."

"Nothing is said just so! 'Just so' is an extremely concrete confirmation in life to everything that is said!"

"Yes...that is, no...."

"And how many receiving clerks are there in the shop?"

"Five. They work on shifts. For the customer's convenience, the shop is open from 7 in the morning until 9 in the evening."

"Now let us count this out. For six workers there are five receiving clerks and a manager.... Where did you get this arrangement?!"

"Petr Sidorovich, what you saw today are temporary difficulties," Vera Pavlovna starts to mutter. "Here, I brought the plan with me, and we plan to create in this shop an automated system for submitting orders."

"And how many thousands will this system cost?"

"I do not know precisely, but it is not very expensive, about 10,000."

"You are a well-off woman, Vera Pavlovna! But here is what interests me: if this shop were your property, what would you say to me if I suggested that you hire five receiving clerks and purchase a system for 10,000 rubles? I would probably hear some pretty nasty words!..."

"I do not intend to become a property owner!" Vera Pavlovna answers indignantly.

"Why should you own property? The money is not yours, but you are the one who spends it...."

"I do not spend it on myself!"

"But that is not true! You spend as much of the people's money as you want as long as you can prove that nothing can happen here without you! You are the one to gain from confusion in the economy, and confusion flourishes with you. Well, tell me, what will the automated system produce here? Six workers—will they be able to keep up with five receiving clerks and an automated system?"

"But there are not six of us, but five," says Fedor Ivanovich. "Ageich came to seal us in."

"What do you mean—seal you in?"

"Here is the iron. He was going to block off the window."

"I will explain everything to you," Mariya Ostapovna whispers. "They are getting shoes into the shop, and we decided...."

"Block up the window in your own office!" Yanchik shouts.

"And the doors," adds Fedor Ivanovich. "It is through them that the main thief makes her way into the shop!"



"What a nightmare!..." Petr Sidorovich mutters. "What a nightmare!... Is this," he said to Vera Pavlovna, "the act of evasion of the human factor that sounded so sweet in my ears? Yes! Well, the procurator's office has been instructed to handle the percentage relations that have involved you so much, but I," Petr Sidorovich looks at Yanchik and at Fedor Ivanovich, "today will create a commission and for this iron that you were going to place in the window we shall demand the removal of the shop chief, the head engineer, and the director!"

"Is that not a little too much?" There is no longer any need for Vera Pavlovna to worry about appearances, and one can see her exposed face in the force of the money she has stolen, in the force of the relations that were reinforced by mutual theft.

"I do not think it is enough," says Petr Sidorovich. And as though afraid of losing control and doing something that cannot be corrected, he turns sharply and leaves.

"Well, there it is, my dear ones," begins Vera Pavlovna, following him with an out-and-out smile. "Petr Sidorovich will make some noise, make an effort, and that will be that. But we will work. Do not hope that they will get rid of Mariya Ostapovna and the uncontrolled times of Sergeyev will return! We will be able to stand up for Masha and we will find somebody to protect us too. And as concerns certain talkative.... There, I heard someone was on the waiting list for an apartment...."

"But it was I...I am looking for a little corner...." Kolyunya begins to babble.

"And others," Vera Pavlovna voice becomes stronger, "are already first on the list."

"And I...why?" Fon Petya becomes alarmed. "I put in all the proper paperwork and have always done what is required of me—please!"

"That position is no concern of mine, Petenka! You must live for the interests of the collective, and be responsible for everything that takes place in the collective! And the window, Masha, will not have to be blocked up. We will introduce brigade responsibility and we shall share equally with you in making up for the shoes. Then there will not be excessive theft!"

16. As soon as the vodka begins to run short, Kolyunya changes to moonshine, but he cannot drink it out in the open, so he begins to hide it. In the morning he puts a liter of moonshine in a jug over the sink and every now and then he runs in and takes a sip.

Mariya Ostapovna follows him like a goat, but she is holding her trump for the right occasion. And then it comes. Upset over the fact that he will never see the one-room apartment he has been promised, Kolyunya

drinks too much. He stumbles and falls, hitting his head on his accordion, and passes out. Then two policemen show up, accompanied by Mariya Ostapovna.

"This one?" one of them, the young one, asks. "Eh!" He ruffles Kolyunya's hair.

Kolyunya straightens up, takes a knife from the bench in a businesslike way, and begins to sharpen it on the stone.

"Is it not this one?" the sergeant, in confusion, glances at Mariya Ostapovna.

"That is the one!"

"But it would seem that he...."

Mariya Ostapovna walks heavily to the bathroom and returns with the jug.

"What kind of 'it seems like' is it when he has lapped up a whole liter of moonshine?!"

"Is this your moonshine?" the sergeant becomes more severe.

"It is mine...." Only now does Kolyunya look at him.

"Let's go," says the sergeant.

"Why?" Kolyunya talks rapidly. "I have to work! After all, people are coming in today!" He throws down a boot which he had intended to put on.

"I am firing him!" announces Mariya Ostapovna. "I am firing this drunk!"

"Yes, let us go!" the sergeant becomes firm in his decision, and, taking Kolyunya by the shoulder, pushes him from the chair.

Kolyunya jerks, resisting, and suddenly falls completely helplessly sideways on the floor.

The bad leg, like a stick clothed in trousers, snaps out and points upwards. The sergeant throws up his hands, indicating that he is not to blame. His fellow officer starts to raise Kolyunya up—patiently and cautiously. The masters cluster around the policemen.

"What are you doing?..." Fedor Ivanovich says maliciously.

The sergeant's face becomes as red as the bars on his uniform.

"I beg your pardon, I did not know...."

"He is faking it," Mariya Ostapovna shouts tensely in her cutting voice. "He can jump like a boy when he wants to!"

"I see that in this story there is something she needs very much...." the officer says to the sergeant, screwing up his eyes.

"I? I am in charge here! And you—drunk!—to the drunk tank!"

The officer says not to her but to the sergeant: "She will get him out of the drunk tank herself for money...."

"I do not have the right to cover up drunkenness."

"And she would discharge him from work and turn in a report," the officer contemplates quietly. "And this is a quiet person, an invalid, and suddenly—us...."

"I will complain, take that into account!"

"Excuse me," the officer finally answers Mariya Ostapovna directly. "But the police have no business here. Excuse us, but this is the wrong kind of case."

Straightening himself up after the row and looking from side to side with still-frightened eyes, Kolyunya becomes more cheerful. "What happened, did she become bored here?!"

"You should have a little less excitement!" says Dmitriy.

"Dim, what happened?" Kolyunya's eyes become distorted as if he is about to cry, and his voice becomes strained. "I live without a house, in a corner of the old woman's house, they are turning my boy against me, and now—this.... In private—I do not drink—you might as well hang yourself."

Fedor Ivanovich moves his chair over and sits down next to them.

"One of my clients is a doctor for this kind of thing. Maybe she can treat you?"

"Yes, what am I, an alky?! I have been oppressed—that is why."

"He is not an alcoholic!" Dmitriy says with merciless sarcasm. "But who are you? Never mind, Mashka will find a place for you in the labor camp and they will tell you who you are!"

"If you wish, I will put her in there!"

From a little satin bag in which he stores his orders, Kolyunya takes a receipt book that is filled up and along with it the orders, according to their numbers, that have been taken from the shoes. He beckons everybody toward him.

"Have you seen this: On the order it says 3 rubles 60, but on the copy it says 1 ruble 60. And here, and here, and here. Eight receipts in the book! This does not mean the drunk tank, this is enough to send her to prison!"

"But how did she do that?..." Dmitriy is perplexed. "Doesn't it copy to the lower one?"

Kolyunya gives his apprentice a withering look.

"Is it so difficult to remove the lower copy? They take money from the clients according to the receipts, but they put it into the cash register according to the original. They wanted to get around Kolyunya, the fools! They wanted to pick up something new, the idiots!"

"Stop," Fon Petya says, alarmed. "Is this true for us too...."

"And you thought!"

"No," Fon Petya is doubtful. "The bookkeeper at the factory reconciles the sum of output with the sum of intake. The output cannot jump higher than the intake."

"And it does not jump. They subtract it. On the sly."

"Well, friend, give us the orders!" Fedor Ivanovich orders angrily. "Frisk everybody and all the papers to the police now!"

"Heeee!" Kolyunya tries to say "No" in a whisper. But only croaks. "She has connections there, they will cover her!"

"Let us take them to the capital!"

Kolyunya shakes his head in protest. "We need her here in our hands, not in jail! She should be held down with a stick! Now the inspection, all the wrongdoings in a pile—give her a scare!..."

"All right. But which one of the receiving clerks wrote this down?"

"Valka! She was the one on duty."

"Valentina!" Fedor Ivanovich calls. "Valentina!"

"What is it, boys?"

When Mariya Ostapovna is not around, Valentina is very nice to the masters, she fawns over them—You are orphans, she would say, and I am an orphan.

Fedor Ivanovich takes her by the elbow and sits her down.

"How are we to understand this, dear?"

The odor from Valentina's underarms is suffocating as it floats through the shop.

"Sing, you bitch: Boys, boys!" Kolyunya moves in her direction. Fedor Ivanovich takes the orders from her and waves his hand, motioning for her to clear out of his work place.

"Get ready to go to jail!"

"Fedichka, not I!" Valentina grabs onto the bench. "They make me do it!"

"You lie!"

"Here!" She falls on her knees, and thumping her forehead, makes the sign of the cross. "I swear by my children!"

"And do they all write them this way?"

"All! She is the only one who does not, they are all in our hands!"

"That is it," Fedor Ivanovich narrows his eyes impressively. "Unless you want to go to Masha and start a fight right now, get all of the copies from her and bring them to us."

"All right, Fedichka, but just do not put me in jail. She is the one! She is the one! And I have nothing to do with it!"

After the break, looking around, she runs into the shop and without bothering to hide her dirty brassiere, she opens up her robe and the copies of the receipts fall out.

"Fedor Ivanovich, you promised!" she reminds him, moving back. "You are the only one I believe!"

"Take the orders, brothers!" Fedor Ivanovich demands. "We will play a game of lottery. I will call out the number and you look for the order."

The first book they check from cover to cover. In the rest of them they find a couple of orders and put them away. It is all the same: for three normal receipts—a forgery, a clean order, and again—forgeries and more forgeries.

"To the police!" Dmitriy is in hurry. "Let us collect our thoughts—they will notice the traces!"

"Sit down!" Kolyunya shuts him up. "Do you not know that the law is a sham?"

"Forget about the police!" Fon Petya says. "They eat off the workers."

"But there might not be another case like this," Fedor Ivanovich turns to him.

"Well, excuse me, boys, but you, Fedya, think about what you are saying?!" Yanchik throws up his hands. "Just a month ago did Ritka not fill out the same kind of under-the-counter orders for us? Or shall we not think about her and let her go to jail?!"

"Yeees, we are stuck...."

"We have her on the hook and all we have to do is pull her in—nothing else is necessary!" Kolyunya creeps up to the dusty curtain and looks into the corridor and—says to the shop in a whisper:

"On the hook! The most reliable people—who are on the hook!"

"See that that doesn't happen to you!" Fedor Ivanovich says bitterly.

"I? Let us go and see how she acts with me!"

"Get out of here. I have nothing to talk to her about."

"But I will go! Who will go with me! We will go for the throat!"

"For the throat—and what is that? Fifty percent?"

"Do not put me on, Fedor," Fon Petya gets up. "We have success in our hands, and you...."

Kolyunya stops at the office and raises his finger, signaling for them to listen. Mariya Ostapovna is talking on the telephone.

"I gave her two sticks of sausage and fixed the toes of her shoes free of charge, and then on a Saturday workday she made Denisik push the wheelbarrow! Can you imagine? Only a year ago the child had appendicitis! It is good that it was MY child, who is not afraid of telling her what he thinks about her and about her wheelbarrow."

Kolyunya decides this is a conversation that can be interrupted and pushes open the door.

"So!" he throws the book and orders out of his apron onto the desk. "So!" he repeats, vengefully smacking his lips.

A wave of convulsions passes across Mariya Ostapovna's face. She puts the receiver in place and, looking around as though to see how and where she can jump, gazes at the faces of the workers standing in front of her.

"Well?" says Kolyunya. "What now? Shall we call the police or not?..."

In the gray eyes of Mariya Ostapovna, which always look as though she can see everything nasty inside a person, there flicker fleeting emotions: from a germ of hope—in a moment—to confidence, malice, and scorn. All that with one guess: they are afraid!

"The police? Call them!" she offers him the telephone. "Aha, you mean there will be no police. But what are you asking?" she says in a casual way, as though at a bazaar.

"You, Ostapovna.... It is you," Kolyunya threatens her unconvincingly with his finger. "You lay off on this drinking!"

"Is that all?" Her bulging eyes, that are accustomed to seeing everything nasty, smiled. "Is that not too much?"

"Or else we will cause trouble! We can do that too!"

"If you, Kolyunya, decide to frighten me again, you must first stop frightening yourself!"

"You think that we will not do it?" Kolyunya moves closer to the desk. "Do you think we cannot?!"

"You can—go ahead. Ivan Mefodiyevich will say call their bluff."

"And we will go through with it if necessary! But first we came to talk."

"To talk? All right. Let us say that I closed my eyes to your drinking. Then what? Is that what really started all this off? In our system we cannot live like we are living. What is wrong? You are not children, you know: People hold me responsible, and I hold you responsible. There is no way that we can get away from this."

"There are various kinds of demands," says Fon Petya. "These percentages...."

"What do you mean THESE?" Mariya Ostapovna responds firmly.

Fon Petya stops short:

"For a moment...."

"That is the way it is throughout the factory. I do not understand why you rebelled."

"Maybe that is the way it is throughout the factory, but that is not the way it has been with us," says Kolyunya to the side.

"And how was it with you?"

"Half and half," Kolyunya lets the words fall.

Only now does it come to Dmitriy what the negotiations are moving toward. She has one thing on her mind, and they are willing to bargain. Now they will agree not on 60, but on 55, and—in the end.

But the whole time Mariya Ostapovna is speaking judiciously and seriously.

"Half and half will not do. I have receiving clerks and people need me.... The inspections now are not the same as they were at one time...."

Dmitriy goes out of the office.

"Where is he going?" Kolyunya jerks around, looking frightened.

"You get out of here...." Dmitriy hisses through his teeth. Before he slams the door, he shouts:

"Assholes!"

Yanchik follows him. He sits at his bench, working, snorting from time to time and blinking.

"What happened there?" Fedor Ivanovich asks, showing with his crooked smile that he is not surprised at the treachery. "Did you make a deal?"

"Give whatever they want!" Dmitriy throws up his hands in despair.

The negotiations come to an end. Kolyunya gives back the orders, looking dissatisfied. He stops next to Dmitriy, and says:

"You gave in! Aren't you a little young to give in? Because of you it all failed!"

Dividing up the orders they split equally, he throws Dmitriy's half on the bench:

"You are so smart—do what you will with them! Mother told me: Never trust anyone."

From that day on there is an atmosphere of general dissatisfaction and lack of confidence hanging over the shop. It is firmly lodged, and is painful—as if cutting living tissue, it goes deeper and deeper.... The receiving clerks are still happy and Mariya Ostapovna becomes a lady of leisure again. On the first of the month she takes Kolyunya and Fon Petya to the factory meeting with her. They return to the shop with a banner.

"Look at her now!" says Fedor Ivanovich.

"But we know how she wins these banners," Yanchik says irritably. All day long he waits for someone, cautiously listening for voices in the receiving room, looking into the corridor.

"As if nothing had happened, Masha is now a heroine." Fon Petya announces, teasingly, as if on behalf of Mariya Ostapovna. "And, incidentally, you have increased her output! And I said...."

"Wise guy!" Yanchik snorts. "Even without any output they would figure out a way to get the banner! Mefodiy was in charge of it and they gave it to her. They gave it to her so that this would cover up any shortcomings."

A familiar voice rings out in the receiving room, Yanchik sticks out his head, and becomes tense.

"Fat rat! And I say—rat! And she will be asking me where I am going! Degenerate!"

No doubt: Showering Mariya Ostapovna with compliments, Rita moves through the shop. There she bursts into the shop—flushed red with anger.

"Shut up, fools!" she shouts to the receiving clerks who do not dare to follow her. But she still has a little smile for the masters:

"Well, hello! You poor things, how sorry I feel for you: God blessed you with a female boss! And the receiving clerks? Monsters!" she shouts into the corridors. "I should scratch your eyes out for you!"

"Our breadwinner! Why do you not drop in?" Kolyunya breaks into a smile.

"Our sunshine!" Fedor Ivanovich begins to smile. "How are things for you in your new job?"

"Better than with this fool!"

And—into the corridor:

"Snake in the grass!"

And—to Dmitriy:

"Have they been picking on you since I've been gone?"

And—to Yanchik:

"And you do not just sit there! That is my brigade—just leave them!..."

And—to Fedor Ivanovich:

"Fedya, and what about you?! These masters sit there and smell that schizophrenic stink!"

And—into the corridor:

"Speaking of schizophrenic!"

And—into the shop:

"Stay away from her! I got Yanya off, but you stay away from her! Let her have what she wants, she is looking for fools!"

From behind this curtain of speech, Yanchik puts his instruments into a canvas bag and sneaks away to change clothes. Then he appears again—in an expensive light gray suit, but he is unwashed and unkempt. Rita, chattering, begins to move toward the exit. Then smartly, like a military vehicle, she moves through the receiving room and from the steps she gives out a couple of elaborate, indecent phrases as a farewell.

The floor seems to tilt under Dmitriy. He looks questioningly at Fedor Ivanovich and then Kolyunya.

"They are all like that, challengers!" Kolyunya says excitedly. "We will not give them anything: not a kopeck. Then run under Ritka's skirt!"

Fon Petya agrees in a businesslike way, but Fedor Ivanovich smiles—a mean, knowing smile.

At the end of the shift Kolyunya says to Anzhelika, who is shooing him out of the shop with her gaze:

"Enough hiding, Anzhelochka: We are all friends here and we are all the same!"

Anzhelika stares fixedly at Dmitriy and Fedor Ivanovich.

"I say—go ahead and carry on out in the open: There is nobody for whom to carry on this comedy!"

Like a spy, Anzhelika looks in a package, walks up to Fon Petya and gives him something.

Fedor Ivanovich eyes Dmitriy in a melancholy way: "Did you not guess?..." He confirms submissively: "Yes, brother, that is the way it is, and we can do nothing about it here."

Everything in the shop crashes for a while.

Dmitriy is walking in the park—from one lane to another, in a circle. They have deceived him—well, he has already accepted that. But then again—again!—they have sold out to the bandits in high places! And have left them confident that forever—forever!—they will have plenty of working hands!... The hopelessness of this "forever" drives the deepest into his soul. He cannot believe that forever, eternally, he will have over him Mariya Ostapovna, Vera Pavlovna, Ivan Mefodiyevich; but thousands of people like him, all because of the percentage that has been stolen, are doomed to work 10-12 hours a day without looking up, are doomed to steal from the people for them. From whom? His grandmother. He cannot agree to this. He cannot. But he cannot see, he cannot imagine what forces he can use to destroy this loathsome thing. Yes, Mariya Ostapovna

allows 5 percent. As soon as she gets steady on her feet she will take away this 5 and will put on more pressure, squeeze out even more, it will always be more, more than the regular rates, and for this "more" they will always have this trash in higher places above them....

The park becomes empty, only here and there are people kissing on the benches. Dmitriy feels drawn to Nastenka, wants to forget everything with her lips.

The windows on the building sparkle like mirrors. Nastenka recently moved to an apartment. The room was rented from a nagging old woman who keeps track of everything. Dmitriy looks for pebbles—but there are none around. But one cannot ring the old woman's bell at night, and the little window—there it is—is only on the second floor. Dmitriy looks around, as though someone might take him for a thief, and climbs up. But right at that time the light of some headlights begin to flicker in the street. Dmitriy squeezes himself against the wall. He can feel the scratchy surface against his cheek. Noiselessly rolling, the vehicle approaches, and with a sharp squeak, stops right underneath him. Nobody gets out. Straining himself until he is almost crying, Dmitriy turns his eyes. They are kissing. What if they do not break apart for a while? Their hands are active, and it is nothing like a good-bye kiss.

But here the lock clicks, and tenderly removing the numerous—as though they are being applied not by a person, but some kind of octopus—hands, Nastenka backs out of the vehicle. The vehicle starts, takes off, filling the street with light like a bloom.

Now Dmitriy falls down. Nastenka looks up and freezes.

"Ah? Ah—ah..." she begins to recognize him. "Ah—hah—hah!" She understands everything. "Ha, ha, ha, ha!" Dances, squatting, along the sidewalk.

"Hee! Hee! Hee!" Dmitriy starts laughing.

"Oy! Oy, I am going to die! Oy, I am wetting my pants!" On all fours, she is crawling along the asphalt.

Dmitriy rubs his hands together, getting rid of the dust, and brushes off his knee. He has almost calmed down. Nastenka comes up, touches his shoulder, extends her pursed lips. Dmitriy recoils and runs away.

"Yes, you are all alike!... If I were to play by your rules, tomorrow I would buy a car and I would leave this unfortunate person eating my exhaust fumes! And those people in the shop...for 45 kopecks, a ruble that is stolen.... I feel contempt! Not for a day longer with you! With my money...."

He passionately considers the possibilities of revenge. He fantasizes without restraint, because he knows that there will be no revenge. He will not go and buy a car tomorrow, but will go to the shop, to his own people. He

has been taught by the entire shop, he will invest his ability in it, hoping to preserve and save the trade!... And these same people...how can they? Do they not see, do they not understand?...

Dmitriy recalls how they took Sergey's body from the morgue. Awkwardly passing it, making a fuss, they took the coffin out of the bus—it was scantily built to the size of a person, but it was heavy, made of damp, untreated wood covered with satin. Those in front opened the door and on the threshold they were assaulted by a wave of nauseating odor.

"Here! Here!" the live command came from a solidly built old woman whose face was red with sunburn from working in the garden, and who was wearing a long, tattered coat. "Stop, where are you putting it?! Careful!"

At that time, another old woman who looked enough like her to be her sister, was hungrily finishing a roll, poking it into her mouth with her fingers, and judgmentally shaking her head—these peasants are so unbelievably awkward!

They were led in and double doors were opened for them, but everything could be heard and seen so well from there. A cart similar to a box for firewood, grindingly, and with frequently squeaking wheels, proceeded somewhere into the depth, where something heavy was thrown onto it. Then it came back and that heavy thing was thrown into a bath filled with water. Immediately, almost without delay, it was brought from there and dropped heavily into the empty wooden box. And they began to move toward it to arrange clothing, and became quiet and calm.

"Come on in!"

A shaky weakness pushed Dmitriy to his knees. The worker adjusted the scarf that was covering her head.

"Yours?"

"It would seem...." Yanchik said after a long silence. But he was still looking into the mutilated, unrecognizable face.

"Bear up!"

"How can they eat—there!" Dmitriy said in the bus, with a deep breath, holding back the nausea.

"They have gotten used to the smell," answered Fedor Ivanovich.

Then he added:

"And what about us—is this not true? Have we not gotten used to the smell of our own work?"

"Yes." Only now completely understanding Fedor Ivanovich's words, Dmitriy thinks: "We have gotten used to everything, and become patient...."

But what should he do—get used to things along with everybody else? Or should he leave? Somewhere there is clean work and clean relations. Somewhere—maybe. But why does the clean work have to be somewhere else, why not here?! Why must he, whose ability and whose hands are so necessary to people—why must he run away? And Mariya Ostapovna will be able to get even fatter! Right along with the Vera Pavlovnas and Ivan Mefodiyeviches—they will determine the destiny of the shop and distort their souls and their trade! Well, no! One cannot give up here, he must invest all of himself and give everything. Everything? Including the thousands that are hidden in the box of old nails? Actually, here one should begin with the thousands. For this is not his and not Sergey's—this is not their money. He will put it on the bench tomorrow, these thousands, their future collected funds. He will say.... Well, is it important what he will say? It is important that they will understand, they will understand! How they will look....

Dmitriy leaps and, jumping high, tears off a sticky maple leaf. He has found it! He has found a place for everything—for himself and for the money which will not leave him in peace. And the main thing is that there will be a battle. Do not make a deal with Mariya Ostapovna. Do not go to Ivan Mefodiyevich to ask for forgiveness, the thousands that were stolen will be divided up among the workers—a battle!

"Next time I will lock the door and will not let you in, just so you know that!"

"Gram, I want to eat—I am about to die!"

"Still he will not listen, such a tramp! I raised some grandson! With all his gadding about he has probably forgotten about eating!"

"Where can you warm it up there!" He takes the spoon from his grandmother and digs into the kettle.

"Eee, Eee, he has gotten really hungry!"

"Gram, you should wake me up earlier."

"And you should come home earlier and not later!"

Having moved into the kitchen, she looks out at Dmitriy, saying, "When should I wake you up?" He is asleep, all curled up and his cheek sunk deeply into the pillow. She comes up and stands there with a kind and extremely troubled feeling, thinking that he has now grown up. Was it so long ago that she picked him up and placed him in his bed? But now he has shot up, and she can no longer stroke his head or teach him things. It is the end of Grandmother's power and he will now do everything for himself. But has she not taught him anything about life?

There is never time or reason for anything. And now it is too late. Now life will begin to teach him. Is this good? And what will happen to him? How to find out, how to protect him from evil?...

The large, bony, grimy fist, the boyishness, the peach fuzz, the mustache, the firm cheekbone, the brow furrowed by serious dreams, and the pure, quite childlike eyelid.

"The master...." the grandmother whispered.

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### Book on Listening Reviewed

18200006j Novosibirsk *EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO)* in Russian No 9, Sep 87 pp 143-148

[Review by N. V. Simonov of the book by E. Atwater, "I Am Listening to You," Moscow, "Ekonomika", 1984, 112 pp, abridged translation from English]

[Text] Are we able to listen? It turns out that, as a rule, we are not. Frequently we simply do not listen to the person who is talking to us. This is typical of many cases: when the conversation is about a subject that does not interest us very much, when we are tired, and when we think we have no desire to listen. Other habits impede our listening: the desire to interrupt the other person, to correct him, and sometimes even the desire to change him. Therefore we frequently listen attentively only to that which pertains to us personally. As for other issues, we frequently do not hear what people are telling us but what we would like to hear. We are taught from childhood to convey our thoughts to others correctly. A great deal of attention is devoted to this at home, in the school, in the VUZ, and at work. But, strange as it may be, this kind of attention is not devoted to the art of listening, in spite of the fact that without it there can be neither effective communication nor communication in general. And it is possible to learn this by mastering the technique, developing in ourselves a positive attitude toward the speaker, getting rid of bad listening habits, mastering devices of memorization, and so forth.

A good deal is written about this in the foreign press, and the emphasis is placed on revealing its importance. This problem is approached differently by the eminent American psychotherapist Eastwood Atwater in his book, "I Am Listening to You," which was published in 1981 by Prentice-Hall, an extremely large publishing house. The book was published in Russian translation in 1984. Opinions about it vary. Nonetheless, according to the information of the publishing house "Ekonomika," there have been many orders for the book and it is being prepared for a second edition.

The applied focus has played a significant role in this. It reveals the methods and technical devices for effective listening, and gives concrete recommendations and exercises for improving these skills. But still the basic interest in the book, "I Am Listening to You," is explained by the fact that the art of listening is considered against the background of general requirements for communication. And on this plane the practical advice consists of sociopsychological recommendations for increasing the effectiveness of business and everyday communication as a whole. The book is of interest for a broad range of readers, although it is intended for the business manager, which is shown by its subtitle: "Advice to the Manager on How To Listen Correctly."

In order to understand the other person, the author tells us, it is first necessary to clarify his goal. One should remember that in the process of communication the partner, as a rule, switches from one goal to another or is pursuing several goals simultaneously. In certain cases the partner wishes to show his respect and maintain relations (a social goal) and in others he wishes to obtain information that interests him (an information goal). The solution to a problem situation or the regulation of a conflict determines the desire of both partners to achieve mutual understanding, in spite of the critical need on the part of one of them to give rein to the feelings that are gripping him (an expressive goal). Finally, it might seem that the partner in communication is placing certain requirements on you, addressing you with a complaint or a request, trying to make you not only listen to him attentively, but also to meet him halfway (a persuasive goal).

And the first case to listen correctly is to participate in a pleasant ritual of daily conversation. Sometimes the only thing required is simply a smile or a handshake. Social communication presumes that the partners are speaking or listening in turn, not interrupting one another.

To listen correctly when the goal of the conversation is exchange of information means to perceive the speech of the partner precisely, to understand his meaning, and to remember it. When receiving complicated information it is expedient to make brief notes about the main points. Devices of "active" or reflective listening are useful here: rephrasing, clarifying, summarizing.

With expressive communication it is appropriate to use devices of nonreflective listening or the ability to listen attentively but silently, without interrupting the other's speech. For he is emotional and disturbed to begin with, and is experiencing difficulty in formulating his thoughts. But this is only until the speaker's feelings become less intense, after which it is necessary to express one's understanding and approval of his behavior.

But when the goal of communication is to regulate a conflict, devices of listening based on restraint or understanding of the other's feelings are irreplaceable. Here it is important to let the other person know that you understand his feelings.

But regardless of what the goal of communication may be, it is always useful to know the technical devices for effective listening and to be able to utilize them easily. The author's recommendations presented in the last chapter, "How One Should and Should Not Listen," can be reduced to the following:

1. Discovering your listening habits, your strong and weak points, and the nature of the mistakes you make. Do you not judge people too quickly? Do you interrupt the other person frequently? What impediments to communication are typical of your answers? Which of these is repeated most frequently?

A knowledge of your habits is the first step toward improvement.

2. Do not avoid responsibility for communication. It is mutual, since two people participate in communication, and they alternately play the role of the listener. Be able to show the other person that you are actually listening and understanding him. This can be achieved by questions for clarification and active emotions. How can the other person know that you understand him if you do not tell him that?

3. Be attentive. Be able to maintain visual contact with the other person, but without importunity or a fixed gaze (which is sometimes perceived as hostility). Check to make sure that your postures and gestures show that you are listening to the other person.

Remember that your partner wishes to communicate with an attentive, living interlocutor.

4. Be able to concentrate on what the other person is saying. This requires deliberate effort since concentrated attention is not sustained long (less than a minute). Try to reduce situational interference (television, telephone) to a minimum. And do not allow your thoughts to "stray."

5. Try to understand not only the meaning of the words, but the feeling of the speaker. Remember that people convey their thoughts and feelings in a "coded" way, according to accepted social norms.

6. Be able to be observant. Check on the nonverbal signals of the speaker, since a large part of communication is conveyed through the emotions. It is necessary to check the expression on the other person's face, how he looks at you, how he maintains contact, how he is sitting or standing, how he conducts himself during the conversation. Do these nonverbal signals on the part of the other person correspond to his speech or contradict it?

7. Maintain an approving reaction toward the other speaker. Your approval helps him to express his thoughts more precisely. And any negative reaction on your part elicits in the speaker a defensive reaction, a feeling of a lack of confidence, and a guardedness.



8. Listen to yourself. Your concern and emotional agitation make it more difficult for you to listen to the other person. If his speech and behavior affect your feelings, try to express it: this clarifies the situation and it will be easier for you to listen to the other person.

9. Remember that frequently the goal of the other speaker is to obtain something real from you or to change your opinion or to cause you to do something. In this case, action is the best response to the other speaker.

When improving your listening skills, basic attention should be devoted to mastering the recommendations presented above. But remember also the negative aspects and mistakes which should not be allowed. Thus, when listening to another person:

1. Never pass silence off for attention—the other person can simply be involved in his own thoughts.

2. Never pretend that you are listening. This is useless: a lack of interest and boredom will immediately be manifested in the expression on your face and in your gestures. It is best to admit that at the given moment you cannot listen to the other person attentively enough, mentioning, for example, that you are too busy.

3. Never interrupt unnecessarily. Sometimes we do this unconsciously, and it has been observed that managers more frequently interrupt their subordinates than vice versa. But if in order to clarify the essence of the matter you still must interrupt the other person, then afterwards help to restore the course of thought which you interrupted.

4. Never draw hasty conclusions. Everyone is unconsciously inclined to judge, evaluate, and approve or disapprove of that which is being said. But it is precisely these subjective evaluations that force the other person to take a defensive position. Remember that such evaluations are a barrier to meaningful communication.

5. Never let yourself get "caught" in an argument. When in your thoughts you do not agree with the speaker, as a rule, you should stop listening and wait for your turn to speak. But if you begin to argue, you get so involved in justifying your viewpoint that sometimes you do not hear the other person. Hear him out to the end in order to understand what it is precisely that you disagree with, and then after that present your viewpoint.

6. Never ask too many questions. It is possible to ask a question to clarify what has been said, but closed questions require an answer like "yes" or "no" should be reduced to a minimum. An excessively large number of questions suppress the other speaker, take the initiative away from him, and sometimes put him in a defensive position.

7. Never say to the other person: "I understand your feelings well." Such a statement frequently serves as a justification for your own (unsuccessful) attempts to convince the other person that you are listening. In reality, it is very difficult to know precisely what the other person is feeling.

8. Do not be too sensitive to the emotional aspect of the speech. When listening to an excited speaker, be restrained, or otherwise you will miss the point of the conversation. Be on guard against emotionally charged words and expressions and perceive only the meaning they carry.

9. Do not give advice unless you are asked for it. And if the other person actually does ask you for advice, make it clear what he really wants. Otherwise it is possible to make the mistake the young mother made in a discussion with her small son. In response to the question "Where did I come from?" she started into a lecture about human reproduction, only afterwards to hear: "But Billy said I was from Chicago...."

10. Do not pass listening off as persuasion. People who are passive and unconfident sometimes take advantage of listening as a possibility of avoiding communication and self-expression. They not only do not speak, but in fact they are not listening either. There is no doubt that this kind of listening causes only harm to the conversation.

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### **Analogues Between Economics, Medicine Considered**

*18200006k Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 9, Sep 87 pp 149-166*

[Abridged chapter of book by Janosh Kornai, "Contradictions and Dilemmas. Research on Socialist Economics and the Socialist Society," published in English by the Gorbina Publishing House in 1985, translated by N. V. Baranova, Institute of Economics and Organization of Industrial Production of the Siberian Branch of the USSR Academy of Sciences (Novosibirsk; first 10 paragraphs EKO introduction)]

[Text] Today we are offering the readers an abridged translation of a chapter from the book by one of the most eminent modern economists, Janosh Kornai (Hungary), "Contradictions and Dilemmas. Research on Socialist Economics and the Socialist Society," published in English by the Gorbina Publishing House in 1985.

In Ja. Kornai's research one can single out two centers of interest:

problems of planning and of socialism, including their theoretical analysis and development of methods of solving them (including formal ones);

problems of the functioning of the socialist economy, mechanisms for reproducing such phenomena as deficits, unfair distribution, excessive growth of foreign indebtedness, disturbance of economic growth, and so forth.

The first area is represented, in particular, in the following works of the Hungarian economist: "Ultracentralization in Economic Management" (1959) and "Mathematical Planning of Structural Solutions" (1967, 1975) and the latter—in the monograph "Antibalance" (1971), "Spasmodic and Harmonious Growth" (1972), "Deficit Economics" (1980), and "Growth, Effectiveness, and Deficit" (1982). These books, which have been translated into many languages, have brought Janosh Kornai world renown.

Three articles have been translated into Russian: Kornai, Ja. and Liptak, T., "Planning on Two Levels" in the collection: "The Application of Mathematics in Economic Research," Vol III, Moscow, "Mysl", 1965; Kornai, Ja., "Toward a Theory of Imbalance," *EKONOMIKA I MATEMATICHESKIYE METODY*, 1972, Vol VIII, No 5; and Kornai, Ya., and Shimonovich, A., "Problems of Management in Newman's Economic Systems," *EKONOMIKA I MATEMATICHESKIYE METODY*, 1976, Vol XII, No 6.

Specialists evaluate Kornai's works on the functioning of the socialist economy differently, and there are alternative interpretations of the phenomena he analyzes. But practically all critics note the integrity, the depth of analysis, the simplicity, and the clarity of presentation.

The book "Contradictions and Dilemmas" is devoted to a fashionable theme of today—the compromising nature of economic decisions. In the chapter presented here Ja. Kornai again emphasizes his adherence to economic science which studies objective reality and not an ideal model. This position which would seem to be natural has not always been considered mandatory in socialist economics, where for a long time what prevailed was a description of what should be. And if what "should" be was not manifested in reality, this was explained by various particular "shortcomings" or mistakes on the part of individuals.

Of course one should not take too literally the analogy between economics in medicine which is proposed by the author. The seven diseases he reveals are a device used for greater clarity. Readers accustomed to a different tone might accuse Kornai of pessimism. But this is not so much pessimism as the feeling expressed in Ecclesiastes—"In great knowledge there is much sorrow." Here is what Ja. Kornai himself says in the preface to his monograph: "I must warn the readers that this is not an optimistic book, but it is not pessimistic either.

We Hungarians have an age-old tradition: we can deviate, make concessions, be despairing or angry, and consider the future uncertain, but still we work hard and honestly to improve the existing situation. Possibly economists of other countries will want to follow this tradition. Without presenting a rosy or utopian future without pretending to know optimal solutions and not hoping for significant achievements in the near future, they begin to help making changes for the better and to defend them."

We hope that Janosh Kornai's article will stimulate more thoughts than hundreds of comforting publications would.

### Thoughts About Analogies Between Economics and Medicine

This article is constructed on an analogy between medical science, which defends the health of the human organism, and economic science, which struggles for the help of the nation, for effective functioning of economic systems. We are speaking exclusively about analogies between the two disciplines, a comparison between the medical researcher and the economics researcher, and we are not discussing the similarity between a physician who treats a patient and the administrator (business executive) working in some particular economic system.

What can we economists learn from another discipline, particularly medicine? There is every reason to have the proper respect from medical science. It originated many centuries ago while economic science is only 200-300 years old. Humanity expends incomparably greater intellectual capabilities, labor, material funds, and equipment on medical science than it does on economics.

Perhaps the most significant difference between these two disciplines is that in medicine the link between research and its object (the suffering person who wishes to get well) is more direct than it is in economics, and successes and failures are much more obvious. Pain and death, easing of pain, recovery—these alternatives dramatize the battle of medical science. The dramatic essence of the consequences of its actions is a powerful motive force. The gratitude of the patients and their relatives, their despair and disenchantment generate significant social control and pressure. The impact of the successes and failures of economic science is much more indirect and mediated. And one more important difference: medicine, like many other natural sciences, can experimentally verify the majority of its hypotheses while economics, as a rule, does not have this possibility (except for certain narrow spheres of investigation).

How are these differences explained? Of course, not by the personal qualities of the researchers in the given disciplines, but rather about the objective differences in their positions. Medicine is a more mature science, although it still cannot answer many vitally important questions. I am not idealizing the modern state of

medicine. But even with all of its shortcomings, in my opinion, it has advanced considerably further than our economic science. Consequently, it would be useful to think about how its philosophy, methodology, and approach to problems can help us.

I am far from wanting to develop some kind of "bioeconomics." The significant differences between these two scientific disciplines and their methodologies are obvious. No science can be based on analogies, a mechanical adaptation of the experience of other scientific areas. Of course there is the danger, but taking the analogy to the extreme, of coming to stupid conclusions. But that should not stop us from circumspectly analyzing the analogies between the two disciplines.

### Short-Term Economic Pathology

I do not intend to evaluate the economic history over a thousand-year period or to enumerate and classify all the sufferings and agonies accompanying humanity on the path to the creation of material well-being and the development of modern technologies and organizations. I shall limit myself to the present and, moreover, to the diseases of average and highly developed economies. The developing countries are struggling with many similar and specific diseases, but I shall not touch on them here.

I shall list seven basic groups of diseases, utilizing, as in medicine, several criteria for their classification. In medicine individual specific diseases are included in the corresponding group according to the identity of the factors that cause them (for example, bacterial infections), according to the organ that is infected (heart, liver, gastrointestinal tract, and so forth), according to similarities in the progress of the disease, and according to symptoms and consequences. Why seven groups? After all, many other severe diseases of the economy are known. But both experts and nonspecialists think that these seven are the most serious and the most widespread and well-known.

**Inflation.** Its mild form is slow, creeping inflation, more severe—unrestrained (galloping) inflation, and the fatal form—rapidly accelerating hyperinflation. There is no clear boundary which would determine where a "healthy" rise in the price level (inevitable for their flexible movement) ends and the disease of inflation begins. The determination of the boundaries requires an evaluation of the economic policy. This is true not only for this case, but also for the other six groups of economic diseases.

**Unemployment.** In its mild form, in my view, it can be found practically everywhere. The adoption of decisions regarding the distribution of the labor force and reliable information in this sphere sometimes diverge and therefore the supply and demand for labor force do not always correspond to one another. But the more severe form of unemployment should undoubtedly be regarded as a

disease. It causes material and social harm, it places the unemployed in a degraded position, and it undermines the feeling of confidence in those who are still working. A large amount of unemployment is usually accompanied by a partial underutilization of material resources.

**Deficit.** With this disease the supply of goods regularly lags behind the demand. The consumers—the citizens, enterprises, and organizations—do not receive the goods and services they desire, and they are forced to replace them with something that is not as good and more expensive, to put off their purchase, or to forget about it altogether. This disease, as a rule, is accompanied by waiting lines, black market, corruption, and indifference on the part of the producers and the salesmen to the quality of products and the needs of the consumers.

**Excessive growth of foreign indebtedness.** Creating debts in and of itself is not bad if the credit that is received is utilized to advantage. If this is not the case and, as a result of a self-generating process, the country goes deeper and deeper into debt, it is faced with an illness. Its mild form is the burden of heavy debt dependency with which exports cannot keep up, and its fatal form is when the country becomes incapable of paying its debts.

**Growth disturbance.** One of the varieties of this broad group of diseases is abnormally slow growth, stagnation, or even a decline in production and consumption. The opposite form is extremely rapid, forced growth. The mixed case, which accompanies mainly the second time, is unproportional, unintelligent growth: some branch bursts far ahead while others at the same time are stagnating or even falling into a catastrophic situation. Such spasms of economic processes could perhaps be considered to be partial crises as opposed to those that encompass the economy as a whole.

**Unfair distribution.** A certain inequality in the distribution of incomes and goods and, consequently, in the consumption of goods and services not only accompanies the healthy functioning of an economy but, in my opinion, is also a condition for it. The question is where necessary, health inequality ends and there is the beginning of a degeneration which painfully wounds the sense of justice of a large part of the population and impedes normal functioning of the economy? But, in spite of the debates, practically every person agrees with the assertion that in various economic systems extravagance and wastefulness, on the one hand, and poverty, on the other, exist side by side. As a result of origin, skin color, family circumstances, health, age, and other factors, many people live in an unfavorable situation while others undeservedly receive excessive income.

**Bureaucratization.** This disease is manifested as an ever increasing number of decisions concerning the distribution and placement of resources and goods shifts from people who are directly affected materially and morally into the sphere of the impersonal authority of the apparatus of institutions and organizations. At the same time

there appear attitudes of dependence on the bureaucracy. The disease becomes especially dangerous when a cancerous spreading begins and the "cells of the bureaucracy" irrepressibly divide, crowding out healthy tissue.

I daresay that there is not a single developed country that is completely free of the aforementioned diseases. The situation in a country can be considered relatively favorable if it suffers variously from only one of the seven basic diseases and two or three others are in evidence in mild form. There are many more countries that are seriously infected with two or three diseases and suffer to a lesser degree with several more.

Therefore it is not easy to define the concept "healthy economic system." In medicine the organism is considered healthy when each of its organs is functioning well and adapts successfully to changes. The characteristics of an organism lend themselves to study and empirical observations and measurements. According to the rules of representative selection, it is possible to observe a large number of healthy people and take into account the distribution of the most important parameters, say, of cardiac activity. We come to the conclusion that when resting the heart beats at a speed of 60-80 beats per minute with a regular rhythm, a person is healthy, and if it beats more frequently or arrhythmically, he is probably unhealthy. A statistical description of a healthy heartbeat becomes more precise and more definite the greater the degree to which we succeed in eliminating from the selection people who are suffering with diseases of the heart and other organs. Any specific statement in anatomy and physiology concerning the characteristic properties of a healthy organism proceeds from the idea that there are people whose entire organism is healthy, and not just one organ or another.

Economics cannot base its conception of health on such an idea or on empirical observations of healthy systems. The fact is that throughout history up to this very day there has never been an economy that has been healthy in all respects. Therefore the category of "health" is a hypothetical one for economic science. We have only a partially empirical basis. If, for example, we decide to consider an economy healthy if it has been free of unemployment for a long time, we will be able to turn to the existing economic system which eliminated unemployment, but we will continue to be bothered by other serious ailments (deficit, bureaucratization, and so forth). That is, an absolutely healthy economy is an idealization in which the model of the complete system is compiled from healthy subsystems that actually exist separately in various real systems.

And so we shall call certain phenomena diseases of the economic system if they:

cause direct or indirect physical and spiritual suffering by many people, and also economic losses in the society as a whole;

they are not manifested even in a few economic systems of our time.

Consequently, phenomena that cause losses and suffering to the society but are in existence today in all systems without exception shall not be called diseases.

How developed and mature is the system for studying diseases in our scientific disciplines that are being compared? Today people in the medical field have hundreds of general training aids, say, in pathology, and the number of works that pertain partially to it reaches the thousands. Even in the first years of training the students study anatomy and physiology of the diseased organism for at least as much time as they do for the healthy one. In individual clinical disciplines the proportions of study of individual organs and the organism of the whole are also approximately equal.

There are completely different proportions of research and study of "health and disease" in economic research and economic education. For example, in the all-encompassing American textbook on economics, a large part of the material is devoted to a description of how the economy would function if it functioned well. "Pathologies" are practically not mentioned. The situation is similar with textbooks on political economics of socialism for Eastern European universities: only a couple of pages are devoted to describing diseases of the economy....

Of course both in the West and in the East economists engage in an analysis of the same diseases, but numerous publications are devoted to some of them (inflation, unemployment). Serious works are also being published on several other ailments (say, unfair distribution of income), but the interest of the researchers is focused on them to a lesser degree. And such diseases as bureaucratization or deficit has not yet been studied deeply at all. Moreover, unfortunately, there is not a single economic work which discusses all the basic diseases of economic systems. Therefore, in my opinion, it would be extremely instructive to have a simple systematization, classification, and methodological survey of causes, symptoms, and consequences of these diseases.

#### Therapeutic Action and the Side Effect

One of the basic tasks of medical treatment is to compare the desirable effect and the harmful side effects that accompany it. Thus hormonal preparations are used for many diseases. The patient sometimes sees them as a panacea: after lengthy pathological processes there is a rapid improvement and tormenting pains stop. Therefore he tries to persuade his physicians to prescribe these preparations for as long as possible. But the side effects from them are just as strong as the basic therapeutic effect is. The physician must carefully think and discuss with the patient the side effects with which he will put up for the sake of the basic desirable effect.

A doctor friend of mine gave me one of the numerous books on this problem: Mailer, "Side Effects of Medicines. Encyclopedia of Harmful Reactions and Interactions," Amsterdam, Excerpta Medica, 1980. For me, an economist, the very structure of this book was instructive. I shall relate it in the hope that it will be useful to others as well. In the encyclopedia the information for each group of medications was classified in this cross-section:

harmful side reactions (harmful side effects are summarized);

organs and systems (all organs and systems of the organism are considered in sequence and all possible side effects of the corresponding preparations on them are described in detail);

situations of risk (it gives the possible effects of a given substance on the organs affected by other ailments, the aged, children, pregnant women, and so forth);

interaction (it considers the effect of the given preparation applied in conjunction with others that have been prescribed for the patient).

Along with each statement the book gives brief information about the expected frequency of the corresponding side effect. It also discusses side effects that have not been completely clarified and require further study.

I was considerably disturbed as I leafed through the book. How far we economists are from a systematic collection of harmful side effects of our therapy! We shall try to take a step in this direction. Let us consider the basic problems of the interconnection between the desired effect and the side effects in the seven basic groups of diseases of modern developed economic systems.

**Inflation.** Inflation can be slowed down or eliminated with the help of one of the instruments at the disposal of the state or combined application of several of them. Let us say that the basic means of treatment is limiting the amount of money in circulation or state expenditures, and, as a result, limitation of demand. Then typical side effects will be a decline in production and growth of unemployment. This interconnection is clearly visible today in the United States and in certain other developed capitalist countries. If one uses a different means—strict administrative control over prices and wages—the side effects are violation of the traditional market processes, a sharp growth of the bureaucratization of the society, and, possibly, these will be accompanied by a deficit. In this case in a capitalist economy open inflation is replaced by concealed inflation, which is accompanied by the customary symptoms: bottlenecks, waiting lines, substitution of products caused by the shortage, and the black market.

**Unemployment.** In a capitalist economy the main side effect of Keynesian measures for fighting against employment in recent years has been inflation. A socialist economy is in a position to constantly eliminate unemployment; we have a chronic shortage of workers. This is guaranteed by the existing economic mechanism, the interests of the parties making the decisions, and the strategy of the economic policy, which creates a continuous investment famine and almost unlimited demand for productive capital investments. All this swallows up previously unutilized resources, including labor resources. But these processes are accompanied by side effects—chronic deficit, bureaucratization of economic relations, and in many cases, excessive and accelerating growth of foreign indebtedness. A clear example is the situation in certain countries of Eastern Europe.

**Deficit.** For a long time Yugoslavia clearly demonstrated the side effect from reforms directed toward fighting against economic deficit. It provided considerable freedom for the market mechanism and the price mechanism. As a result, unsatisfied demand, waiting lines, and the black market were basically eliminated. But there appeared inflation and partially overt and partially concealed unemployment, where the surplus of labor forces covered by exports of temporary workers to developed capitalist countries of Europe. Excessive foreign indebtedness was in evidence. Similar side effects appeared also in Hungary, although they were not so clearly expressed. Individual branches achieved success in fighting against a chronic deficit but foreign indebtedness increases. We shall return to Hungary's problems in the context of the disease of bureaucratization.

**This disease is spreading in our day like the plague.** There is hardly a single country that is free of it. It is treated by various methods—devaluation of national currency, protectionist tariff policy, administrative restrictions on imports, export subsidies, and so forth. The side effects here are a retardation of the growth rates or even an absolute curtailment, which is accompanied by increased unemployment in the West and a growing deficit in Eastern Europe, increased inflation, and bureaucratization of the economy as a result of administrative measures for limiting imports and promoting exports.

**Irregular growth.** A typical example are the cyclical fluctuations (and phases of decline within them) in capitalist countries. Their treatment is similar to the treatment for unemployment and therefore the side effects are also similar. The most significant of them is increased inflation.

**Unfair distribution.** The Scandinavian countries began to treat this serious disease most energetically with the help of sharply increasing progressive taxes, free or almost free services of certain kinds (education, medical service, and so forth), and extensive insurance for disease, disability, old age, and unemployment. Along with significant progress in the sphere of social justice in these

countries there appeared certain unfavorable side effects: some of the economic processes were bureaucratized, there was a shortage of subsidized services, and the expansion of public services lay like a heavy burden on the state budget, whose deficit contributes to increasing inflation. Moreover, there has also been noted such a negative consequence of weakening of incentive for labor activity, which has not been named among the basic diseases.

**Bureaucratization.** The main methods of treating it are to transfer the functions of control from administrative institutions to the market mechanism. One can observe this policy, particularly, in the United States and England. Certain countries of Eastern Europe, for example, Hungary, are taking the same path. In Hungary measures for bureaucratic regulation have somehow equalized distribution and their elimination has led to increased inequality in incomes. A similar effect appears with the elimination or reduction of state subsidies that were previously granted to enterprises and social groups and segments. As a result, the level of well-being of certain social groups and segments drops, and the differences in the incomes of enterprises that are profitable and those that are operating at a loss become greater. Moreover, the elimination of bureaucratic regulation of prices and wages opens the doors more widely for inflation which has been kept down up to this point.

We have come to the end of our list of diseases. Space limitations make it impossible to discuss the compromise variants. And although I have pointed out some very serious problems with only one or two sentences, even a brief survey leads to fairly depressing conclusions. Reality leaves no room for the question: How can we reach a state of complete health of the economy? For countries, nations, parties, and governments, perhaps, the more realistic dilemma is—which type of disease to select if complete health of the economy is impossible?

Is this conclusion not pessimistic? With all my heart I wish that science could refute it! Two methods of proof or refutation are possible: theoretical investigation of compromises between diseases of the economic system and historical experience. I think that the more carefully and the more thoughtfully the research conducting the model of the economic mechanism pays attention to all the effects of treatment, the closer he comes to the truth. Theoretical literature discusses the interconnections, unfortunately, only between two or three of the basic diseases. And so far we do not have a detailed, in-depth theoretical analysis of the interconnections among the seven basic diseases I have listed, not to mention the side effects from their treatment. The dispute will be resolved, apparently, more on the basis of historical experience than on purely theoretical analysis.

I make bold to assert: if we were to begin radical treatment of one of the basic diseases which during the course of historical development has begun to prevail in a given economic system and has reached a developed

form, there would inevitably be active development of at least one other basic disease. We are speaking, of course, about those cases when the disease does not torment the system in threatening form and a radical form of treatment is used. Moderate treatment of a mild form of the disease does not necessarily lead from one large problem to another.

It certainly does not follow from this assertion that it is never necessary to undertake radical treatment. In certain cases medicine prescribes serious surgical intervention, strong medications, and X-ray therapy, although it is well-known that they are accompanied by unfavorable side effects. The physician is obliged to make a decision after carefully weighing all the curative and harmful effects and having been convinced that the expected advantages outweigh the harm that will be caused. He shares the responsibility for this decision with the patient or his relatives.

Let us be frank: this approach is frequently avoided by proponents of revolutionary transformations and radical reforms of economic systems. They initially emphasize that in the existing situation one disease or another is an unbearable torment for the society (unemployment, inflation, unfair distribution or bureaucratization are intolerable). The society (or a significant part of it) suffers from this condemned evil and therefore agrees with the proposed radical changes. The mistake takes place when the scientist proposing the treatment says nothing or himself is not sufficiently aware that these measures, although they will destroy the prevailing evil, can aggravate other diseases.

This is the kind of neglect allowed by social scientists who took up arms against the evil caused by the market and did not carefully analyze the new problems that were possible with the elimination of the market mechanism. Or: followers of Keynes, proposing the treatment for unemployment that is now well-known, did not properly think through the dangers of inflation and bureaucratization which accompany state intervention.

It cannot be ruled out that the majority of members of the society will accept the proposed treatment even knowing of the expected unfavorable side effects. (The patient also always fervently desires to get rid of the disease which is bothering him the most at the given moment.) But it can also happen that the society would rather put up with an old evil than suffer from a new one. The selection of a radical treatment and the accompanying side effects—this and the final analysis is a political and ethical selection with a comprehensive evaluation of the consequences.

#### Situations of Risk and Interaction

Let us now turn to the chapters of the encyclopedia concerning situations of risk and interaction. To begin, let us consider problems of the first of these. It is known that a medication that can be taken without danger by a

person who is healthy in all respects can cause serious consequences in one who suffers, say, from a kidney disease. An operation that is safe for a young person can have a fatal outcome for an older person.

Many economists are less cautious and pay less attention to the specific situation of their patient. They boldly recommend their formulas that have been lovingly fostered in their offices without cautiously weighing the special situation that has developed in the economy and the dangers that threaten it from various sides. Typical examples of this approach are provided by the more inflexible, orthodox adherents of the monitoristic school. They propose the same formula for the United States, England, Chile, Israel, China, Yugoslavia and Hungary, without taking into account the immense differences in the levels of economic development, social systems, political structures, positions of the governments and trade unions, and so forth with respect to the monitoristic policy. An economic policy that is successful for one country in a particular historic situation can sharply aggravate social conflicts in another country or simply impossible in it because of resistance from the society. There is no doubt that cooperation from the patient is necessary when treating his disease. It is even more necessary to have the support of the society when treating diseases of the economic system.

I shall demonstrate the economic analogy of interaction of medications with Hungary's experience during the past 15 years. For a long time the economic policy was used to fight against two problems at the same time: the poor economic stimulation and the social injustice of distribution. The means against the former were introducing incentives for profit and permitting the activity of private enterprises in certain spheres, and against the latter—the policy in the area of wages and tax measures that contribute to equalizing incomes. But in their interaction these medications weaken each other's effectiveness. Many equalizing measures that guarantee the survival of enterprises and the preservation of existing workplaces dull the stimulating force of profit. Strong intervention in the distribution of incomes retards private initiative in long-term measures and significant capital investments. At the same time, encouragement of market relations, private initiative, and interest in profit strengthens the inequality in the distribution of incomes and well-being, and thus offends the sense of justice of many people.

### The Origin and Duration of Diseases

Medicine classifies diseases from several positions. One of the most important is whether it is a congenital disease or an acquired disturbance? Cases of deviations from the norm, from the healthy condition, with which a given person lives from birth, are considered more an anomaly than a disease. With a congenital disorder one determines whether it was an inherited disease or the result of external impact on the organism (during the embryonic period or at birth). Frequently because of

heredity or for other reasons a person, although he was born healthy, has a congenital predisposition to certain diseases which can appear with age or, say, because of shortcomings in nutrition.

Or there is this question of clarification: Is this a critical disease from which the patient can recover with his own immune mechanisms and the appropriate medical intervention or is it a chronic disease from which he cannot recover completely but it is possible to improve how he feels with a correct way of living and medical care? In certain cases a critical form of an acquired disease can be eliminated but the predisposition for it and the possibility of its recurrence remain.

But let us return to economics. The main weakness of economic pathology is perhaps that it does not distinguish between various disorders like the aforementioned classification does. Inflation is a critical disease caused by external "infections"—this is the typical explanation of the causes of this phenomenon by proponents of the theory of "imported inflation"—but perhaps the modern economy, especially during periods of rapid growth, has an inborn inclination to chronic inflation?

The following questions are no less crucial. Is mass unemployment brought about exclusively by the anti-inflation policy of conservative governments or is it an inborn anomaly of capitalist economics? In other words, is it possible to eliminate this disorder over a relatively long period of time only with the help of unofficial stimulation, which leads to inflation and threatens increased foreign indebtedness? Is it possible to call deficit and import anomalies of the strongly centralized and bureaucratic management in socialist economics?

A medical person must deal with phenomena of a congenital anomaly, inherited diseases, chronic ailments, and predisposition to certain diseases. When trying to treat a person or at least to ease his suffering and pain, he has the right to turn away from the idea of the chronic nature of many diseases and console himself and the patient with assertions that this is a transitory, easily solved problem.

But the economist, because of the political and ideological nature of his profession, frequently draws a biased and distorted picture of the phenomenon. He is convinced that the disease of the neighboring "patient" (neighboring country) is congenital or chronic, but this economist soft-heartedly consoles his own patient and himself: recovery is near, all one has to do is take advantage of the formulas and course of treatment he has prescribed....

### Professional and Ethical Conclusions

Several general remarks follow from what has been said. Certain of them are limited and professional in nature, while others are associated with the ethical problems of scientific research.



Usually a distinction is made between positive and normative economic analyses. The former investigates that which exists while the latter investigates that which should exist. I admit that during all the time I have engaged in economic research I have felt a certain suspicion of and frequently a revulsion for the majority of normative theories. Having considered the analogy between medicine and economics I have a better understanding of my suspicions and my revulsion. A considerable proportion of normative theories (including numerous theories based on various ideological and political beliefs) try to paint an ideal picture of the economic system or its subsystems.

In medicine too there are positive and normative analyses. But their analysis is different. Anatomy and physiology describe the structure and functioning of a healthy organism of an actually existing person, and not an ideally perfect one. The human organism is an amazing machine. But it is far from perfect; it is full of unreliable and fragile elements. Nature has thoughtfully provided us with a pair of lungs, two ears and two eyes, and it has provided reserves of certain important organs. Unfortunately, it has not given us two hearts. But a reasonable physician does not ask: Should the human organism not have two hearts? The organism is the way it is and we must proceed from that fact and not fantasize about its perfection.<sup>1</sup> An intelligent statement of normative problems begins not with the ideal condition, but with the reality of the existence of thousands of types of diseases. How does one treat a specific given disease? If this is impossible, how does one provide relief and lighten the consequences?

Such a statement of problems is also known in economic science, but, unfortunately, this is not the focus of the research. Naive optimism is deeply interwoven in normative theories of economics. According to one of these theories, the individual makes decisions that are optimal from the standpoint of its egoistic interests. Its supporters, believing in the perfection of the market, assume that it is sufficient to allow the market (and only the market) to harmonize the decisions of separate individuals, and the functioning of the economy as a whole will be optimal. Proponents of another normative theory, which is based on a belief in the omnipotence of planning, come to a no less optimistic conclusion—the foresight of the planners is capable of optimally coordinating the actions of each member of the society....

Sometimes, as an exception, there appears a scientist who has the courage to assert that there are unsolvable problems. For example, there is Phillips, although his contribution is underestimated by many people today. Of course it is true that in modern macroeconomics, the Phillips curve requires strong additional factors in order to provide for precision of analysis, and it only partially shows the interaction between unemployment and inflation. All this is so. But Phillips deserves credit for the fact that he was one of the first to clearly reveal a serious problem: the totality and interaction of direct and side

effects of decisions that are made. Another classical example is Arrow's work on social selection in which he asserts that it is impossible to satisfy all the desired and rational postulates of social choice at one time. Some of them will inevitably be violated. But although such works exist, unfortunately, they do not set the basic tone in our profession. Its tone is rather blind optimism like that of Voltaire's Dr Pangloss.

In some sense medicine is pessimistic in that it is consciously aware that the majority of people will be ill at some point in their life (possibly many times) and in the end they will all die. But this pessimism does not lead to inaction. Moreover, it is precisely this that prompts scientific research and the utilization of scientific achievements. This is expressed precisely by the physician Roualt, the hero of Camus's story "The Plague," in a conversation with his friend Tarou, who is helping him fight the plague. "Yes," agreed Tarou, "I can understand you. But your victories will be temporary." Roualt became gloomy: "Always, I know. But that is no reason to stop fighting." The desire to act at any price, regardless of the consequences, is alien to medicine. But no less alien to it is passivity and a belief that nature herself will treat the disease.

In my opinion, blind faith in a perfect market, perfect planning, or an optimal structure, and illusory ideas about them impede the honest work of the economist. The world economy is in a depressed condition. There is no reason to believe that everything will change for the better in the next few years. I believe that we research economists of the end of the 20th century have reasons for concern, disenchantment, and anger. But that still does not lead us to an action and capitulation, but should motivate us to sincerely recognize the limits of our knowledge and, with the proper modesty, refrain from the self-confidence of fanatical charlatans. We must base our advice concerning the treatment of an ill economy on a cautious, delicate, and comprehensive analysis.

#### Footnote

1. I can anticipate the objection: the human organism is a creation of nature, its biological properties are in principle given and capable of changing only in a minor way. On the contrary, the structure of the society is created by people and they can also change it. I admit this and would not like to take the analogy to the extreme in this case. Indeed, the great thinkers, politicians, mass movements and parties are in a position to significantly influence the structure of the society. But precisely within the framework of this article I add that their actions produce results only within certain limits. There are changes that are capable of becoming "organic," which the society accepts for a long time. And there are also artificial changes which the society will reject sooner or later, just as certain transplanted organs are rejected by the immune system of the organism.



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**Reorganization of American Companies Reported**  
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[Article by Yu. A. Ushanov, candidate of economic sciences, Institute of the United States and Canada of the USSR Academy of Sciences (Moscow): "Reorganization in American Companies"]

[Text] The random nature of the capitalist economy in the United States, scientific and technical progress, and, as a result of this, the increased difficulty of management, are forcing managers of American corporations to constantly conduct various reorganizations. According to estimates, large reorganizations of management are conducted once every 5 years and smaller ones, each year, and only 20 percent of the innovations (various information systems, planning procedures, and so forth) turn out to be viable. American practice is filled with examples of failures in this area. Yet in certain corporations, through the "trial and error" method and on the basis of a critical interpretation of theoretical developments, a certain management system has developed for large-scale reorganizations. It provides, in the first place, for a fairly smooth changeover from old methods and forms of management to new ones and, in the second place, it contributes to transforming the latter into a customary element of the everyday work of the personnel.

Several typical aspects can be singled out in the management of reorganizations. They include: a preliminary analysis of the firm's readiness for the introduction of new management methods; the compilation of a special target program for restructuring; the creation of a structure of management with this program; the formation of special methods and forms of control that make it possible to adjust the course of reorganization.

#### **An Evaluation of the Firm's Readiness for Changes in Management**

It is important not only to determine whether or not the corporation has sufficient financial, material, and labor resources for the innovation, but also to reveal the main organizational and psychological barriers on its path. On the organizational plane the obstacles can be: a conflict between subdivisions; an insufficiently developed network of communications between them; poor support from management; a contradiction between the existing system of incentives and new requirements for organization of the work; and, finally, bureaucratic resistance to any innovations and the desire to maintain the existing hierarchy.

Of all the barriers American specialists attach the greatest significance to the interest in new methods on the part of the management of higher management firms. The support of the management is important when introducing any innovations, and innovations in management require even more attention on the part of the managers of the company. And it is not only that they themselves are frequently the initiators of the reorganizations. Any innovations in management change and redistribute authority and responsibility, decision-making procedures, and the nature and essence of personnel interaction. Such changes in the final analysis are the prerogative of top management, and it must at least demonstrate interest in them. Otherwise the innovation will not be viable either in any single subdivision or, the more so, throughout the entire organization.

There are various ways of demonstrating an interest in changes. The most effective is the direct participation of the top managers in the development and application of new management methods. Thus the president of the Northwest industries company is personally assimilating the innovation—economic and mathematical methods. He is constantly working with the computer. He has a terminal in his office on which, using quantitative models, he does calculations for the strategic development of the company. The president's example served as a stimulus for the creation of mathematical models in eight out of the nine production divisions. At the present time more than 50 managers of companies at various levels are actively utilizing the quantitative model of the corporation and its constituent parts for substantiating decisions.

A number of methods helped to evaluate the psychological readiness of personnel for restructuring. Their content depends on the nature of the restructuring. Thus with technically or methodologically complicated innovations like management information systems (UIS) it is suggested that they be developed in stages, beginning with test projects—the author of the method calls them "scarecrows." First the test plans are distributed to a limited group of users with a request that they comment on the UIS and those changes that its introduction entails. After the answers are received the test plans are corrected and sent out to a larger list of managers of the middle, and then the higher levels. Thus they create, in the first place, prerequisites for informal approval of the innovation and, in the second place, when its final variant is being introduced the developer will know ahead of time who will exert the greatest resistance and at what level, or who will be poorly prepared for its utilization from the technical or organizational standpoint.

#### **Target Program for Restructuring Management**

An analysis of the firm's readiness for the innovation, on the one hand, helps to determine how best to adapt the innovation to the user and, on the other, it serves as a basis on which one can formulate measures for preparing

corporations for the innovation. Having combined these measures into a special target program, it is possible to efficiently distribute the responsibility for the fulfillment of each measure and coordinate them; to control their improvement; to determine the structure of accountability during the course of the reorganization; and to control the level of expenditures on reorganization.

The content of the program will be different for various management innovations and various corporations, but at the same time one can single out a number of common aspects. First, in any program goals should be formulated for the reorganization, in quantitatively measured form as much as possible, and a brief description should be given for each measure. In the second place, the concrete results of these measures and the resources allotted and the time periods for utilizing them are determined. In the third place, the internal structure of the control of the target program is formulated.

A most important element of the program is a clearly formulated system of goals. Therefore before reorganization, in the corporation they extensively disseminate information about its direction, merits, and possibilities, and at the same time they show the shortcomings of the old forms and methods of management. With the help of this information, one can see which organizational goals will be achieved and which shortcomings will be eliminated. Moreover, the management of companies frequently conduct a manipulative policy, emphasizing the merits of the new system and concealing the fact that it will be used to increase the intensiveness of the labor of the workers and employees and threatens to reduce their numbers. According to data of the West German scientist K. Bleycher, by the end of the 20th century, as a result of the introduction of management and scientific-technical innovations, the overall number of jobs in developed capitalist countries will increase by 22-25 million.

A second important element of the program consists of measures for its implementation. They can be: retraining or hiring of new personnel with the required vocational skills; the acquisition of the necessary computer or organizational equipment; the corresponding building up of the workplaces of managers and specialists; the revision of the official instructions and other normative documents; the arrangement of an effective system of interpersonal communications that contributes to exchange of advanced management skills; finally, the creation of a mechanism that provides incentive for working in the new way. As an analysis of American management practice shows, the most important are training and retraining of personnel for work under the new conditions and also the creation of an intrafirm system for exchange of advanced management experience.

Reorganizations always require a certain retraining of personnel. Generally one can single out two approaches here: preliminary instruction of personnel in theoretical

and practical skills of working in the new way, which is done before the restructuring takes place; retraining during the course of reorganization on the basis of dissemination and publicity of advanced experience. The former approach is used most frequently in the initial stages of restructuring when it is necessary to arouse interest in the changes in reorganization. Additionally, preliminary training is taken by people who are coordinating the restructuring and helping the managers to conduct it. But experience shows that the latter approach is more promising, when the training of personnel proceeds in parallel with the trial and experimental assimilation of the new forms and methods of management at one of the plants or subdivisions of the firm. Thus at a plant of the Ford Corporation in Sharonville, all potential participants in the quality control groups were told only the minimum of rough information about the peculiarities of their work. Special training (methods of brainstorming, gathering information, group dynamics, cause and effect analysis, and so forth) were presented only as they were necessary to a given group to solve a concrete problem.

Retraining of personnel for work under the new conditions should be repeated periodically, including after the reorganization. This is caused by the hiring of new workers and employees and also by the fact that the new forms and methods themselves are constantly evolving: they are influenced by changes in the conditions for management activity as a corporation and experience accumulated in working the new way. An example of such a system of retraining can be activity of the General Motors Corporation for introducing plans for the "quality of work life." The latter presuppose nontraditional forms of organization of the labor of workers and employees (semi-autonomous work groups, transferring workers to various work places, quality control groups, and so forth) mainly with the goal of increasing labor productivity and the profitability of the companies. Beginning in 1971 General Motors has annually conducted conferences of head managers of its production subdivisions. Half of the time of these conferences is devoted to discussing the introduction of "quality of worklife" projects. The materials of the conference are published, recorded on videotape, and distributed to all the production divisions and plants where general organizational courses are organized for training new workers and employees of the company.

The training of personnel for the new conditions has two basic forms: intrafirm courses for increasing the qualifications and programs of training conducted by outside organizations specializing in the given innovation in management (consulting firms, training centers, professional associations). According to data from an investigation of 113 American companies, 75 percent of them have their own programs for increasing the qualifications of lower-level managers and 67 percent for middle-level managers. Outside organizations are used by 66 percent of them for training lower-level managers and 89 percent—for middle-level managers.

In training personnel for working under the new conditions a large role is played by specially created intrafirm systems for exchange of advanced experience in management and training in practical skills of working in the new way. In particular, workers conferences and seminars of managers of specialists who are responsible or participating in reorganizations of the same type have become widespread in American business. In General Motors directors of plants introducing quality control groups gather at such conferences. The conferences are conducted each quarter and at a different plant each time. In addition to the usual training courses the participants hear a report from the director-arranger of the conference and verify its reliability by conversing with personnel of the plant. Similar workers' conferences are also being convened in other American companies—Corning Glass, General Foods, and others.

### Management of the Program for Introduction

At the present time many management innovations are reaching American corporations with the help of outside consultants. Two-thirds of the 500 largest American firms at least once a year turn to them for assistance, and one-third of them do this each quarter. The consultants frequently not only develop new forms and methods of management, but also take charge of the program for their introduction. This practice, on the one hand, facilitates and accelerates the process of introduction and, on the other, it contains the danger of excessive dependency of innovations on outside consultants. When they leave the company the innovation frequently disappears as well, since the "legitimacy" of its application in the eyes of the firm's personnel was associated only with the consultants. The need for coordination of the introduction of an innovation and its support and development remain, and there is nobody to satisfy it. It is precisely for these reasons that within 6 years after the initial introduction, the coal-mining company, Rushton Mining Company, completely rejected the plan for "quality of work life." This took place in spite of the successes in the achievement of the majority of goals that had been set: labor productivity and the qualifications of the employees improved. But when the consultants—scientists from the University of Pennsylvania—left, there was nobody to coordinate or direct the process of assimilating the new methods and gradually little was left of the innovations in the corporation.

The practice of American corporations shows that success in the restructuring requires the creation of internal organizational subdivisions to manage it. Most frequently the target group for the introduction becomes such a subdivision. Frequently this group functions under the leadership of a special committee at the level of the highest management of the corporation which includes the president of the firm, several vice presidents, members of the council of the board of directors, and the head manager-coordinator of the target group for introduction. And those firms that have an in-house consulting service, the nucleus of the target group for

introduction is formed from its workers.<sup>1</sup> In other companies these are employees who have received training in courses at American universities, professional associations, training centers, consulting firms, and so forth. Thus in the division of the Martin-Marietta company that is engaged in the production of fuel tanks for spaceships, the introduction of quality control groups was coordinated by a specially trained group of six people who had completed courses in the International Association of Creators of Quality Control groups. Its leader was under the direct jurisdiction of the plant director, which helped to overcome the resistance of individual managers of line and functional subdivisions of the plant. Every worker directed 15-20 quality groups, and this was his only duty.

As a rule, a special staff engaged completely in the organization of one kind of restructuring or another is especially necessary in the initial stage. It is also necessary if the conditions in the company are unfavorable for reorganizing the situation. Subsequently it is enough to have one head coordinator and his assistants on the spot who combine the work for reorganizing with their basic activity in the production and functional subdivision. This practice accelerates the development of new management methods. Then the task of the head coordinator is the preparation of methodological materials and general supervision of the reorganization. The effectiveness of special groups can be illustrated by the spreading of quality control circles in the Ford Corporation. Before the coordinator was separated from the administration and trade union at the plant in Sharonville, two groups appeared in an entire year. Within 4 months after the appointment of two coordinators, there were 22 groups. When the joint coordinators appeared in the local areas, the number of groups increased to 43.

American companies impose fairly high requirements for the candidacy for the manager (coordinator) who will be in charge of the introduction of new forms and methods of management. In addition to a high degree of technical competence, he is expected to be able to plan work, conduct negotiations and move his opponents in the direction of compromise, and think analytically. He must have authority and be able to use it, be a keen psychologist, and be able to work in a situation of conflict. It is not easy to find in the firm a person who has all of these qualities in full volume, and therefore individual American companies are training a special reserve of workers who are capable of heading or contributing to the reorganization of management.

Such practice exists, for example, in the B. F. Goodrich company. It has created a reserve of specialists (in 1982 there were 60 of them) who have been trained in a special program developed by social psychologists from the firm's personnel service. Participants are invited for this program from various functional and line subdivisions, and the very process of training is divided into five parts, each one a week long. During this time they become familiar with the theory and practice of the introduction

of various methods and the fundamentals of management of target projects. Upon the end of a week of training, each time the students are sent to the plants of the firm where they participate in the introduction of management information systems, new forms of accounting and personnel work, systems of strategic planning, and so forth. Having completed the training, they return to their own subdivisions and are used as necessary in target introduction groups. In other firms the introduction group is sometimes headed by former managers who have worked in the company for a long time and upon reaching pension age have been transferred to the internal consultant service. This practice exists, for example, in the Xerox Corporation.

Large-scale reorganizations inevitably lead the companies into a certain intermediate condition, when the old structure, systems, and methods are no longer in effect but the new ones have not yet been assimilated. As a result, there appears the risk of serious losses. In order to avoid them, certain American companies form two target groups. One provides for operation according to the new way and the other is called upon to organize continuous fulfillment of the firm's current production operations. Thus in the San Petroleum Products Company, when changing over from a functional structure to a product structure,<sup>2</sup> two of the firm's internal consultants headed target groups. The first engaged in the introduction of the new structure of management according to the product principle and the second—the temporary changeover structure of management. They were under the direct jurisdiction of the firm's president and had the right to call business conferences, work with managers at any level of management, and participate in all measures that could exert an influence on the success of the reorganization. The leader of the second target group, in conjunction with the company president, 2 months before the beginning of the reorganization made out a list of jobs and duties which had to be redistributed among the managers. Temporary management committees were also created and certain managers were asked to perform their old duties until managers were trained to replace them. A special group of managers performed functions that did not coincide with their new or old duties. Everyone not affected by the reorganization was asked to work as usual. Temporary forms of reporting and accountability were developed.

The manager of the first target group was assigned a group of experts who, upon his instruction or the request of any of the corporation managers, participated in solving various production problems, in distributing duties and responsibilities throughout the new management structure, and in creating new services and subdivisions. They were the ones who developed the official instructions. It took 2 months for the San Petroleum Company to change over to the new management structure. During this time the leaders of the target groups for introduction conducted dozens of seminars and conferences with managers of various levels concerning the arrangement of their work. The experts assigned to them

participated in the organization of new services and the elimination of old ones. The final changeover to the product structure of management was marked by the publication of a new organizational chart. It indicated the specific officials and approved the official instructions. The target group for the temporary changeover structure was disbanded. As concerns the group that was operating in parallel for the introduction of the product structure, it continued to operate for another 4 months, carrying out the "fine tuning" of the new system for management of the company.

### Control Over the Course of Reorganization

The procedures and methods for control over the course of reorganization should include obtaining broad information. First, about how the goals of the restructuring of management are being achieved, how the schedule of measures is being observed, and what volume of material, financial, and labor resources is being spent. Second, the control should indicate how the corporation's personnel are meeting the requirements for working in the new way. Third, control should reveal the need for modification of the forms and methods of management that have been introduced. The degree to which the goals of reorganization have been achieved can be seen by comparing the firm's functioning before and after the changes in management. The general effect is calculated according to such indicators as the growth of the volume of sales and profit, the increase in labor productivity of production and management personnel, the reduction of labor turnover, improvement of product quality, reduction of the number of accidents in production, and so forth. These are so-called rigid, clearly formulated and measured indicators. An example of the way they are used is the practice of economic and mathematical modeling. According to data from an investigation of 204 large American corporations, more than half of the subdivisions for quantitative analysis determine the total effectiveness of calculations in the form of a contribution to the increase in the corporation's profit.<sup>3</sup> It should be noted, however, that to assign a precise quantitative value to these indicators is an extremely difficult matter since the growth of profit, sales volume, labor productivity, and so forth is influenced by other factors besides innovations in management. This is why American corporations frequently apply specially calculated artificial indicators of the effectiveness of the reorganization. Among them are the degree of satisfaction of the firm's management with the quality and quantity of information (evaluated in points on the basis of questionnaires of the management), the frequency with which the management turns to the management information system, the speed of making individual decisions, and so forth.

In addition to the summary evaluation of the program for introduction, many American corporations envision intermediate reports. Their frequency and depth depend on the nature of the reorganization and its scale. Thus with the introduction of a management information

system intended for 2 years, intermediate reports are made to the coordination committee no less frequently than once a month. When introducing new organizational equipment and procedures for reporting in the bookkeeping office and the financial division, the frequency of intermediate reports is every 2 weeks with a 2-month calculated time period for the assimilation of these innovations.

An extremely effective means of control are reports from individuals responsible for the reorganization to their colleagues. These include, for example, the already mentioned work conferences of managers of plants and divisions of the General Motors Corporation, who participate in the same types of organizational restructuring. The centralized control mechanism operates in parallel. Thus at annual conferences of the leaders of the main production subdivisions of this same company, the top management arranges the work in such a way as to disseminate effective innovations throughout the entire company, to support managers who have taken the risk of their initial introduction, show managers the importance of the new methods of management, and to inform everyone in attendance where they are actually looking for and finding new methods for increasing production effectiveness and where they are merely imitating this kind of activity.

In the opinion of the majority of American specialists, the traditional systems of control over reorganization (reports from target groups, calculating various indicators, and so forth) frequently turn out to be insufficient for determining how deeply the new methods and forms of management have been introduced into practice. It is noted that this control frequently turns out to be ineffective because the innovation violates the existing subordination, and also because of the natural desire of the employees not to report "bad news" to the higher-ups. Because of this, in addition to the traditional mechanisms for control, certain special devices are also used. In particular, the majority of American corporations periodically check on the results of reorganization with the help of questionnaires, including anonymous ones; and company personnel are also interviewed. It is thought that the information obtained this way not only provides a more precise evaluation of what has been done, but also helps to reveal the need for additional changes—it sometimes happens that this reveals mistakes and omissions in the adaptation of the innovations to the changed conditions for the functioning of the corporation. Thus in the San Petroleum Products Company, after the company had worked for 4 months under the product structure of management, they circulated a questionnaire of managers of the new subdivisions in order to clarify their evaluation of the work under the new policy. The results of the questionnaire served as a basis for awarding bonuses for members of introduction groups and also for developing the structure itself. This kind of questionnaire officially confirmed the completion of the reorganization.

The outline of the reorganizations presented here and the formation of a system of control of this process demonstrate the experience of many American companies, but rarely exist completely in each of them. The laws of capitalist competition limit the possibilities of disseminating advanced management experience. Reorganizations that are successful in some firms fail and sometimes lead to bankruptcy in other companies. According to data of the Bank of America, 90 percent of all the bankruptcies of U.S. firms are the result of ineffective management, including unsuccessful reorganizations.

#### Footnotes

1. Internal consultants are workers of subdivisions for improving management. The basic form of their work is the satisfaction of requests of corporation managers concerning various issues related to the streamlining of management. At the present time all the largest American firms have internal consultants.

2. The distinguishing feature of the product structure is the concentration on the development, production, and sales of homogeneous groups of products in autonomous divisions.

3. Ushanov, Yu. A., "Ekonomiko-matematicheskoye modelirovaniye v amerikanskikh korporatsiyakh" [Economic and Mathematical Modeling in American Corporations], Moscow, "Nauka", 1980, p 165.

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#### Satirist of Production Life Interviewed

18200006m Novosibirsk *EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO)* in Russian No 9, Sep 87 pp 180-188

[Interview with Mikhail Zhvanetskiy, satirist, by Leonid Treyer: "There Is No Way Back!"]

[Text] [Question] Mikhaylovich, judging from your works, you are familiar with the life of enterprises through more than just hearsay. If it is no secret, where do you get your information?

[Answer] First of all, from my labor biography. In 1956 I was graduated from the Navy Institute of Engineers and I spent 8 years in the port of Odessa. I began as a mechanic at the port repair and construction office and then I was transferred to be a shift mechanic on the port cranes. This was considered a great honor. I received 890 rubles a month (old-style, of course) and a mass of impressions.

[Question] Can you tell us the strongest of them?

[Answer] My clearest impression from those years was this: What I was taught had nothing to do with what I encountered. The knowledge I received in the institute was of no use to me. Any crane operator or any driver was a hundred times or a thousand times more experienced than I. And they were actually the ones who taught me the occupations.

[Question] And were you liked by the management?

[Answer] I irritated the management somewhat, since I began to take trips with concerts and to go on business trips from the Komsomol Obkom. I can understand how they felt. "Where is the mechanic? The mechanic is on tour! Who will pull the cable? We do not know, but he is on tour. Repair it yourself!" But then when I returned, things quickly became all right again.

[Question] Can you imagine how your production career would have developed if you had not gone into literature?

[Answer] I would have been a shift mechanic for the rest of my life. For I was not able to lead people and I still cannot. I always tried to persuade my subordinates: Well, please, will you do it? Everything was through persuasion. The people can sense this. I would use the polite form of address with them and they would use the familiar one with me. People in the port do not stand on ceremony. But it was all right, we lived together peacefully. Although, I repeat, I would not have become a manager.... I had a keen eye. I remember I was crawling through the cranes and once I found a crack in the rod that holds the arm. It was a barely noticeable crack, but with a good load the arm would have broken—and that would have been a catastrophe.

[Question] Did they take note of your vigilance?

[Answer] In a modest way. The group mechanic shook my hand, and I said that anyone in my place would have done the same thing, and that is where the celebration ended.

[Question] What qualities do you like in a manager?

[Answer] I like managers who are capable of "taking responsibility." I shall explain what I mean. Once while in port I brazenly took a crane out for repair. It had to be repaired, and I displayed independence. But what does it mean to shut down a port crane? It means to stop the work in the section, to move a steamship somewhere else, and so forth. A scandal broke out. All hell broke loose in the management: "Who permitted this?! Who gave the order?!" And suddenly my boss, Morozov, announced: "I gave the order!" He could have stood to the side, but he knew that I had acted correctly and taken on responsibility. He impressed me at that time and I respect him to this day. He caught hell, of course, but they would have punished me much more severely. These are the kinds of bosses I like.

[Question] And was there ever a time when you were shaken up by a subordinate?

[Answer] Well, not exactly shaken up, but I was moved almost to tears. It was in the winter, in the middle of the night. There was an emergency call to the port, to work on the 41st crane. As I recall it now it was a French Caillar crane. I ran to the dock, there was noise and bustle. What happened? It will not turn! No turn! Oranges were being loaded from the holds. We had never worked with this product before: it was 1957 and the first shipload of oranges from Morocco was a responsible job. And suddenly the crane refused to turn. Imagine! I shouted up to the top: "Pasha! Why will it not turn?" And he shouted down to me: "Climb up here, Misha! I cannot handle this alone...." Well, I crawled up there. I approached him. "Come here," Pasha said to me, "in the machine section, there on the stove...." On the stove were three oranges. They were very cold and Pasha was warming them to give them to me. These were the first oranges I had ever seen in my life. What a nice subordinate he was!"

[Question] And did they fix the turning mechanism?

[Answer] I suspect that it never broke down. As soon as I began to eat the oranges, the mechanism started to work again and the shouting down below halted.

[Question] Do you have occasion to visit the plants today? I have in mind not the plant houses of culture, but the shops.

[Answer] Fairly frequently. A couple of days I returned from Nizhniy Tagil, where I performed with the concerts. I asked them to take me to the plant and there they showed me the rolling shop. Could one really pass such an opportunity by! Everything was interesting to me: the machines, the technical equipment, the conversations with the workers. These meetings provide a great deal. You see the success and you see the absurdity. The modern rolling mill is put into operation with a steam machine from the Demidov days. Why is this? I am always struck by outdated equipment on which people try to do important things...."

[Question] Mikhail Mikhaylovich, did you perceive a connection between the collective's attitude toward humor and satire, on the one hand, and the state of affairs of the enterprise, on the other?

[Answer] There is a clear correlation. When speaking at any plant I can tell from the reaction in the room how things are going there. If people are free and easy and do not feel coerced, most likely they are also working well. But if the subordinates are timid in the presence of the director and look at him with terrified, toadying eyes while waiting for his reaction (if he laughs, they too, as if on command, begin to laugh), if the picture is this, then I am almost sure: things are going terribly at the plant....

Never mind, what is my serious response to your questions? I am not a "humorist," I am not a good humor man—I am a normal person. If you ask serious questions I will give you serious answers. Does that suit you?

[Question] Completely. One more serious question: what feelings are evoked in you by the word "economic mechanism."

[Answer] The word, in my opinion, is unfortunate. Rather, in and of itself it is not bad, but because of the frequent use without any real results this word brings to my mind the thought of incoherence. I like very much the expression "automatic system of economic interrelations." It is long, but—precise. That is, when everything proceeds automatically.

[Question] What, in your opinion, impedes such "automation" of the economy?

[Answer] I would like to ask your magazine about this. After all, I am not an economist. Although I try to formulate some things in my work. I try not simply to relate, but to deduce some kind of "law." That is the way it seems to me. For example, I would return to money its main purpose. If you have repaired a television set for me, I will take money from my pocket and pay you. I will not transfer it somewhere, I will not give you a check for which they will pay you somewhere else. Money must be where it will move from hand to hand. This is why it was invented. For instance, noncash accounts make me shudder. I do not understand what this is. They deal in some mysterious money which we do not know, do not see, and do not feel. Or do they exact fines which certain enterprises pay to others? Those that are fined lose nothing, and those that have "lost" fined nothing. Except moral satisfaction....

[Question] In recent years the winter has been totally unexpected for us. In spite of measures that have been taken, it frequently catches us unawares. How, in your opinion, can one explain such a "phenomenon of nature"?

[Answer] For people who are not interested, winter is always unexpected. For them the fashion for jeans was a wild surprise. And electronics pile up on them like snow on their head. And, indeed, why should such a group of people zealously prepare the heating system for winter? After all, they are all on a salary. They depend in no way on the residents of the buildings. Whether there is heat or not they will receive what they need. And the honor roll does not have a strong effect on them. That is, it is nice to be on it but not so nice as to make any great effort. Well, their boss will be punished and there will be a reprimand. Or they will even fire him. But they will put another one in his place. And he will go to bed at 1 in the morning and get up at 5 in the morning. But that will not make anything warmer. It is a matter of equalizing.

[Question] People do not expect from a satirist formulas for "treating a disease." But still have constructive ideas and ways of actually solving some significant problem never occurred to you?

[Answer] I think it is necessary to make it possible to give as many Soviet people as we can the opportunity to travel to foreign countries and become familiar with their life.

[Question] What problem will we solve by doing that?

[Answer] People will see our shortcomings better. They will borrow the best from "them." For we have something to learn from the capitalists. Even Lenin wrote about this. We journalists, of course, write about our impressions, but this is not enough. A person must see with his own eyes in order to utilize what he has seen at his own plant, design bureau, or institute when he returns home. Frequently we send abroad diplomats who consider these trips the greatest blessing, but they see nothing and can explain nothing. There is no need to fear that someone will go there and not return. We should not feel bad about someone who flees, for this is not a loss to our country. Rather it is good riddance. I think that today's policy of our party and our government will be preserved and this idea will be realized in the next few years.

[Question] You have an excellent miniature of nonobligatoriness. Two people can speak strongly about joint work and precise deadlines, but they both understand that it is all talk. People are quick to make promises, but immediately forget their word—and there are no pangs of conscience. What, in your opinion, are the roots of this widespread phenomenon.

[Answer] Unfortunately, nonobligatoriness has become our disease. It is manifested both in relations among organizations and in relations among people. Nonobligatoriness is born of a lack of confidence, of an immense quantity of paper, of words that are backed by nothing. A ministry can dupe an enterprise by going back on its promise. A director who has promised an apartment can swindle people. A gorispolkom can give a guarantee, but when the chairman changes everything is different.... The nonobligatoriness of state institutions gives rise to the nonobligatoriness of us ourselves. Once my father told me about how immense steamships in Odessa were loaded with wheat "on the honor system." There was not a single signature! It is difficult to imagine, but this happened. If a person resolves a problem without the proper authority, he cannot make commitments. His word is worth nothing.

[Question] One of the important subjects of your creative work is the poor quality of goods. The viewers like your monologues on this subject, they applaud and laugh, but that does not keep many of them from "turning out hack work" at their enterprises. Does this bother you?



[Answer] I do not think anybody turns out hack work deliberately: give it here, I will do this job badly. That just cannot be. At first a person makes, for example, a good watch. Then he sees that it does not make an impression on anybody. And then one time he will say to himself: "To hell with them! Let this little burr stay there." Indifference increases. One burr, then another—it passed, and more will pass. The person loses interest in doing things well because the division for technical control accepts it the way it is, and the consumer has nothing to say about it. I repeat, hack work is generated by the conditions in which we place the person.

[Question] One gets the feeling that you are an ardent devotee of the law of individual labor activity....

[Answer] You guess! It is an important law, and I am for it all the way. But I think that there are people (and many of them) who would resist this law. Some of my acquaintances have expressed a desire to engage in individual labor activity. They have gone to the ispolkom. They were told: "Come on the 1st of May!" One asks: "Why not now?" The law will go into effect on 1 May, but certain problems could have been discussed and resolved ahead of time. I am alarmed by phrases like: "At the discretion of the local soviets." The person in the ispolkom who is assigned this work could turn out to be very cautious.... For him all these cooperatives are only extra trouble and confusion. He will open one cooperative cafe in the city for show and then will report: "The law is in effect!" And that is all he needs to do. Why, he will say, do we need five of these cafes? People will stop going to the public dining rooms! True, they will. People will go where the food is good. Let public catering prepare good food as well! Otherwise why switch the products? In a word, the law itself is very useful. As long as it is not defeated by people who are too cautious!

[Question] Oh, those notorious overcautious types.... They are criticized and criticized, but they do not change. Perhaps it is not a matter of the personal qualities of the overly cautious type, but his position? Why would a person who is told not to take the initiative take a risk?

[Answer] This is a delicate question, but there is an answer to it. I am always surprised when an overcautious type calmly reacts to criticism. They will say to him: "How is this?! You have put a stop to such a promising direction!" And he will sit there, flourishing, undisturbed, and nod. Yes, I did, that is all correct. Here is Instruction No such-and-such, here is the order, and here are the directions. We make noise and get nervous, but he is calm. Because he has violated nothing. Well, so they remove him. He is replaced by Petrov. Hurray! Finally! Petrov is a good democrat. One can work with him! But what happens? As soon as Petrov sits in this chair, he becomes an overly cautious type. And he also begins to "cut" and "not allow initiative." In certain cases I would not change the people but abolish the position.

[Question] Among those who welcome restructuring, there are people who are very much afraid of it. How does one distinguish between a deeply hidden fear and clearly expressed joy?

[Answer] According to their deeds. Only according to their deeds. I see no other criteria. What have we become accustomed to? Is it necessary to restructure? Go ahead! Ninety percent shouted: "We have already done it!" I once happened to end up in a high-level conference. The speaker called for independence and initiative. On the faces of the people in attendance, who all their lives had not taken a single step without instructions from above, was an expression of readiness: "Let us be independent! Permit us to do this!" This reminded me of a lieutenant from a bad film when he was racing past a forest unbuttoning his holster on the run. He did not know the route and did not know exactly what he was supposed to do, but he was already racing. And what he is doing in the forest now I personally do not know. First he begins to shoot, then he sits down on a stump waiting for further instructions....

[Question] But, after all, there are many energetic managers who even today know what they are supposed to do. They are not afraid of independence, on the contrary, they see in it a condition for normal work. And for them the problem is something else: how to acquire real independence. How does one bypass the tutelage of various levels which continue to intervene in the affairs, say, of the enterprise?

[Answer] This is precisely what frightens the opponents of restructuring. The expansion of the rights of some lead to an infringement on the rights of others. We have enough "apanage princes" who do not wish to forgo their undeserved privileges and power. They fight for those rights which they have and which they value. This is a life struggle. And they will not give it up easily. This is their main argument now: "Comrades, we produce jeans from bottles!" They say look at the grimaces of democracy we receive, the press has thrown all restraint aside, the ministers have been corrupted, and so forth. But are these really arguments? Yes, democracy does and will have its cost. But we must see what we are losing and what we are gaining. We still understand: there is no way back! We have already been there, in back. We are quite familiar with "those places." We know what comes of prohibitions and violations of the norms of democracy. And we also know the results of discipline of the rod. For there were no beautiful cars or no abundance of food. And there could not be! For it is impossible to love from under the whip. It is impossible to work well from under the ship. Therefore restructuring is our only path!

[Question] At one time LITERATURNAYA GAZETA had a column entitled "If I Were Director." Let us phrase the question on a larger scale: "What would you do, Mikhail Mikhaylovich, if you were appointed minister? Let us say, your first three decisions.



[Answer] Somehow it is difficult to imagine.... Three decisions.... But they could remove me after the first one.... But let us try! So. First of all, I would bring the direct producer and the consumer together. Second, I would not interfere in the work of the directors of the enterprises. And if as minister I had promised something to a plant, I would keep my word. Even if it put me in a difficult situation. I was told at the VAZ that they were promised 40 percent of the currency which they earned. But they were left with much less of this currency. That is, the ministry acted dishonestly. And, in the final analysis, this strikes a blow to the state. For an enterprise that has been deceived loses interest in earning foreign currency.

[Question] Well, and the third decision of Minister Zhvanetskiy?

[Answer] I would take advantage of the idea of my friend, Aleksandr Mikhaylovich Lozovskiy. If they managed to realize some kind of successful innovation (technical or economic) at the plant, the director and his "staff" should receive a small percentage of remuneration for the rest of their lives. Even if one of them is removed or transferred to another enterprise. Why is this necessary? So that the director and his staff will work for the future and not be afraid to take risks. For now, because of the frequent replacement of managers, no one wants to take a risk and their activity amounts to solving problems of the day. I would stimulate work for the future.

[Question] It seems to me that the selecting of managers of enterprises depends on their work for the future.

[Answer] To a certain degree. But after a certain amount of time they can make you a "shoo-in" at the next director's elections. Moreover, the elections have meaning only if the collective does not have somebody imposed upon it "from above." I was once told how in one Volga plant they were holding elections for the rector of the medical institute. The gorkom had removed two of the three candidates. They said that they had been nominated, but the gorkom had a different opinion and that these comrades would not be suitable. And the two nominees voluntarily "withdrew" of their own accord. Such an incident almost took place in the elections of the director for the RAF as well, which was written about in IZVESTIYA. But the collective there turned out to be stronger.

[Question] Very pointed articles are being printed in the newspapers. Has it not become more difficult for satirists under the conditions of glasnost? That which previously seemed too bold is now perceived as the norm.

[Answer] But that is our good fortune! I personally am happy and I say that quite sincerely. For me life in our country is much more important than my personal success. Of course my job becomes more difficult under the conditions of glasnost. A satirist receives more moral

satisfaction when he is just a little bolder than the rest. This provides success for him. Sometimes you even forget about artistic quality, since you are succeeding because of boldness. But when everyone says what he thinks, it is more difficult for the satirist to work. And thank God! I will tell you this! If I write that they make poor trousers for us, two variants are possible: either we learn to make good trousers or my work remains valid through the centuries. I would prefer the former.

[Question] You frequently laugh when reading your own works from the stage. Is it really funny to you at that moment or is it simply "nervous laughter."

[Answer] Of course it is funny to me. I laugh not because it is so wittily written, but because people react the way they do. I read about the shortage and in the hall they laugh. I read about low wages and they laugh even louder and shout: "Bravo!" And they ask me to read about poor heating. And about sausages. And everyone is jolly and they all laugh. And you automatically begin to laugh yourself....

[Question] Do your viewers write to you?

[Answer] Neither women nor men nor children write to me. Here one comrade has isolated a new string of tomatoes and he is swamped with letters. But I do not receive a single one. And after my performances nobody waits at the entrance, girls do not give me flowers, and we do not make dates. In a word, nothing! It is even offensive.

[Question] What new works of yours can we read and see in the near future?

[Answer] I have submitted a manuscript to the publishing house "Iskusstvo." The book should come out in 1988 and it will most likely be called "Monologues." The premiere of my first production "The Flight of the Bird" took place in the Moscow Theater of Miniatures and two excellent actors, Roman Kartsev and Viktor Ilchenko, participated in it.

[Question] What are your wishes for our readers?

[Answer] I will put it this way: friends, I do not know how things are going for you. They are going better for us. We, that is, those of us who write, read and speak, have begun to appear on the screens more frequently. They have begun to print us. It is probably more difficult for you than it is for us. But we will assume that we are the first swallows. Therefore I say: "Follow our flight!"

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**Uniqueness of Soviet Situation Satirized**  
*18200012n Novosibirsk EKONOMIKA I  
ORGANIZATSIYA PROMYSHLENNOGO  
PROIZVODSTVA (EKO) in Russian No 9, Sep 87  
pp 188-189*

[Article by Mikhail Zhvanetskiy: "Word and Deed"]

[Text] Our problems are untranslatable. This is an untranslatable word game. Even Bulgaria does not understand. They refuse to translate the meaning of "You will be third," "You did not stay here," "Comrades, you will support yourselves" or "To be a master on the land."

They do not understand our language, friends. We have given everything so much thought! We still understand them—but they no longer understand us. Hurray! We can speak loudly, without fear. A spy among us would be like a white crow. As soon as he says, "Friend, may I sit here?" he can be kicked out.

And then there are our words, "This dining room has begun to operate even better!" which are completely untranslatable. For, if it was better, why even better? And our "sometimes, once in a while, somewhere, still exist..."? And the struggle for quality? What is a product without quality? What is "poor quality raw material?" Maybe this is not raw material? Or maybe it is no longer raw material? Maybe it is future raw material? But poor-quality raw material does not exist. A bicycle of poor quality is not a bicycle, but raw material which is to become a bicycle.

And there is no such thing as poor-quality steel. Steel is steel, kefir is kefir, and sour cream is sour cream. But we have all acted correctly in order to confuse foreigners and jostle those who are lagging behind. What we call sour cream is not sour cream.

When steel is needed, it will be found. But everything is "home-made" from the blueprints of those designers with low pay. And they cannot be called designers either, just as the money they get cannot be called wages.

And we call the harvest a battle. And we fight—with a combine. And all this "in spite of the weather." Each year the unfavorable weather has generated an untranslatable word game: "In spite of unfavorable weather conditions." This means—rain. How does one translate that it rained, and we did everything "in spite of it"?

As writers teach us, life and language move side by side. I would even say: they are the same thing. And an untranslatable word game is an untranslatable word game.

I will go further: computers do not understand us. We ask it something and it answers, and it does not understand that it should not answer what we want it to. This is a delicate thing! As long as they feed it data, they will

account for something. Something is fed into it and something moves. But it must also have imagination! Therefore after it, before showing it, something is moved. One asks: Why is it necessary?

They brought in a computer to keep track of the free rooms in the hotels. And there sits somebody else's computer, all lit up, and the poorly adapted housing gives off heat. And does it not consider that somebody is voluntarily telling it about the free rooms? All the candy, all the bouquets, and all the power are taken and given to a nasty machine. So it has long been making things up from beginning to end. The machine itself has already figured out that nobody needs it, but it snaps and crackles and gives the appearance of being wildly busy, like everyone does who is not needed by anyone.

Our figures are untranslatable. There is no need to code them. Only "our own" understand what is meant by expenditures, gasoline, and ton-kilometers, what the gain here is involving figures, spare parts, dump trucks and private workers. Only "our own" understand how to bring advantage to this society in spite of its loss. Only "our own" are capable of understanding that the newspaper does not tell us the news but we tell the news to the newspaper: Is it true that they are going to build bridges here?" we write. "It is true," the newspaper tells us, "it is true."

Today, when we are speaking intelligently about our problems we understand that language and life, like word and deed, must be unified. Without the kind of distance between them where many people so agilely sit. An honest word is already a deed. A good deed is our word in this completely new year of 1987!

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**Satire Focuses on Bureaucratic Functions**  
*18200006o Novosibirsk EKONOMIKA I  
ORGANIZATSIYA PROMYSHLENNOGO  
PROIZVODSTVA (EKO) in Russian No 9, Sep 87  
pp 190-191*

[Article by Mikhail Zhvanetskiy: "Save the Bureaucrat"]

[Text] Boys, girls, children, ladies! Let us take a thrifty attitude toward the nature that surrounds us. Toward its diverse forms. Let us not allow the complete annihilation of bureaucrats. Even if we do not like the looks of them. What should we do? Everything in nature is coordinated and intertwined. To destroy one part disturbs another. If you destroy bureaucrats you will spoil nature.

Imagine this: all you have to do is ask for something and it is immediately given! All you have to do is walk up to someone and they immediately sign on the dotted line! All they have to do is promise and it is immediately

done! What is this! People would sit at home. They would come to agreements on the telephone. They would get big bellies, heart attacks, and general softness, the children would not get enough exercise, the men would be indecisive, and the boys would be effeminate.

"Eh! Well, let us have it!"

"I will come to see you."

"I refuse!"

"What?..."

"That is it!"

"I go to seek somebody else."

"I cannot solve this problem."

I go to a third person.

"This is not in my specialty."

"This is not within my competence."

"We will wait for a while with this."

"We will wait this one through."

And here you feel as though you were getting a second wind. There is an unusual lightness in your body. Your resilience is surprising. Your legs have loosened up and gone around the circle!

They refuse—all right!

Wait—all right!

Wait it through—fine!

You rush through the city, strong, light, in shape, and all you hear is: Plop-plot! Clop-clop! The weak ones fall away, khroom-khroom—their little bones....

But the most of the most remain! The most sharp-tongued, the most sinewy. You say to me: "Refuse!" And I bring my wife and my children into your reception room! Plop on the floor!

"I have a leak."

You say to me: "Get out of here!" And from out of the well:

"Hi! I have a...."

You say to me: "Get out of here!" And I, out from under your car, out from under the wheel: "Hi, I have a leak."

You are an aircraft, and I am sitting on your propeller. You are abroad. And I in Montevideo out from under a palm, say:

"Hi, I have a...."

"Ach, if only you would drop dead! How did you search me out?"

"How? Through artificial selection. The speed of a cheetah, skin like that of a chameleon, your own teeth and some to spare, in your right hand an autobiography, in your left hand a medical certificate, in your teeth a pass, and in your eyes a view to local residency!

And you came in a dense formation! Only the wind in your ears, only the dust on the road, and it merges into a single line with the residential area.

Refuse—all right!

Put it off—all right!

Wait it through—fine!

We will not believe the tables! If there is no space—you will find it! If there are no tickets—you will search them out!

If the planes are not flying—you will dispatch them.

We have nothing to fear, we are tempered, zesty, and tested. The men are trim, the women are stacked, and the population is beautiful!

Do not touch the bureaucrats! Great advantage comes from them.

No matter how many years we torment them, they still survive. Do you know why? We are improving their breed—we are eating up the weakest ones!

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